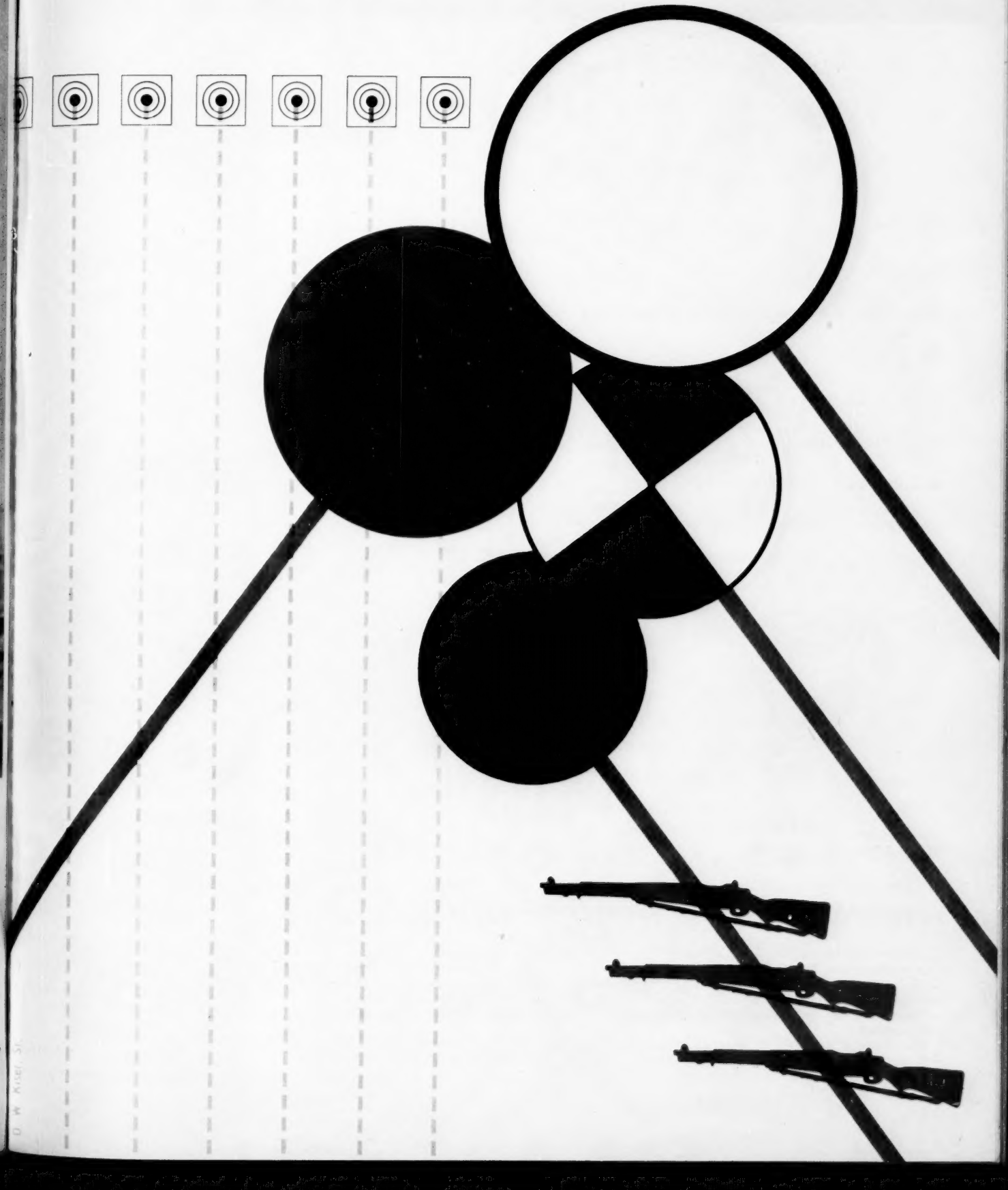
Marine Corps Gazette

AUGUST 1958
FORTY CENTS



Marine Corps Gazette

AUGUST 1958
NUMBER 8
VOLUME 42

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THIS MONTH'S COVER . . . . . Original design by TSgt D. W. Kiser, Sr.

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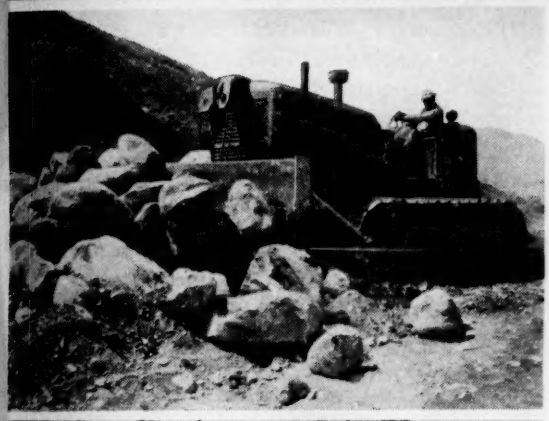
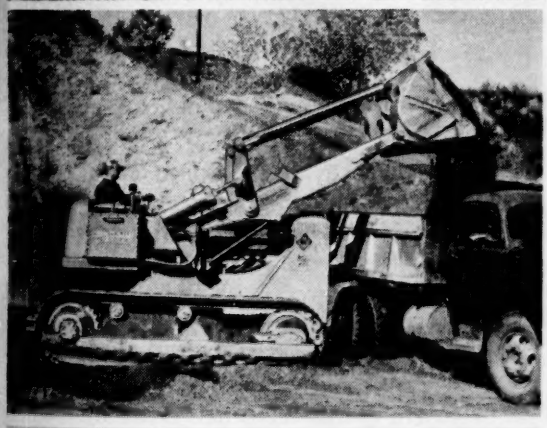
CONSTRUCTION.....or COMBAT





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Coast Watcher

. . . I have just received the June issue of the GAZETTE. Though it is up to its usual standard, there is one comment I would like to make. It has to do with a picture appearing at the bottom of page 42. The caption is incorrect. The white man appearing in the picture is not an Australian officer but Martin Clement who was District Superintendent of Guadalcanal prior to our arrival. The natives are his police boys who withdrew to the hills with Clement when the Japs landed, where they set up a coast watching station and informed us daily of Japanese activity before and during our approach to the island. They were invaluable to us throughout [the operation] as they joined us, at about D+4, and then worked with G-2.

There is an additional interest in Clement since he today is Resident Commissioner of Nicosia, Cyprus, probably the hottest spot occupied by any colonial officer in the Empire today.

Gen G. C. Thomas

1606 44th St., NW
Washington 7, D. C.

Launch/Retrieve

. . . It must be said that the April 1958, GAZETTE was outstanding. The very fine article "Tocsin for Command" by LtCol Reichner, and "Once a Marine, Always a Marine" by Maj Geissinger, offering an excellent solution to a situation plaguing us now, were but two of the many fine articles in this edition. "Combat Uniform, Atomic Style" deserves particular mention since it points up a bad problem, that of the cumbrous equipment a Marine carries today. Having enplaned and deplaned many thousands of Marines aboard a helicopter carrier, I have observed that this equipment not only interferes with deplaning as illustrated by Capt Hanker, but is a considerable hindrance in enplaning.

In examining the essay by Maj Clapp "Launch the Runways," certain areas of the theory of utilizing helicopters as a means of launching and retrieving combat aircraft remain untouched. There is merit in the theory and it certainly should be studied. One aspect in the essay which might warrant further study is helicopter transporting of combat aircraft to rear area maintenance facilities.

The reader may derive a false impression from the illustrations on the first page of the article, showing a

"long legged" transport helicopter carrying the aircraft, thus invoking the argument that the system would not be practical because of the impractical construction of the helicopter. To answer this argument, it should be pointed out that a helicopter used for this purpose could have telescoping landing gear, or, future helicopters may be constructed without a passenger or cargo compartment. This type of helicopter would sit down over a pre-loaded passenger compartment or cargo container, have it attached, and release it after delivering the compartment to its destination, a sort of "flying Hyster lumber lifter." This type of helicopter could well implement Maj Clapp's proposal. It would be capable of lifting heavier combat aircraft, save fuel while the aircraft is released, and might possibly carry a refueling supply for the combat aircraft.

There are questions about the launch/retrieve system which must be answered. These questions, if unanswered, would make the proposed method of launching and retrieving aircraft impractical unless answered and therefore must be thoroughly examined.

1) Would a separate helicopter force have to be created to implement the launch/retrieve system if, under this system, it would be necessary to have helicopters constantly available for launching and retrieving the proposed aircraft, which lacking landing gear themselves are incapable of conventional landings; if lacking landing gear, the proposed aircraft cannot be launched or retrieved except by helicopter from aircraft carriers for preparatory and support missions, prior to and on or after D-Day; if the proposed aircraft could not be used for routine training flights unless helicopters were available?

2) If it is necessary to supply an additional force of helicopters for the launch/retrieve system and since the helicopter will occupy at least twice as much space as a combat aircraft, what percentage of extra aircraft carriers and transports would be necessary to transport the proposed aircraft, their helicopters, and personnel and maintenance facilities to support both; and would this percentage exceed the shipping required to transport other types of loading stations?

3) Is it economical to disperse aircraft as proposed in this system when additional personnel will be necessary to provide basic maintenance, accomplish refueling, provide security, and other support functions necessary to any unit no matter how small, and to provide the additional pilots, personnel and maintenance facilities for support of the helicopters, equal to if not more than those

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The GAZETTE will pay $5.00 for each letter published in Message Center

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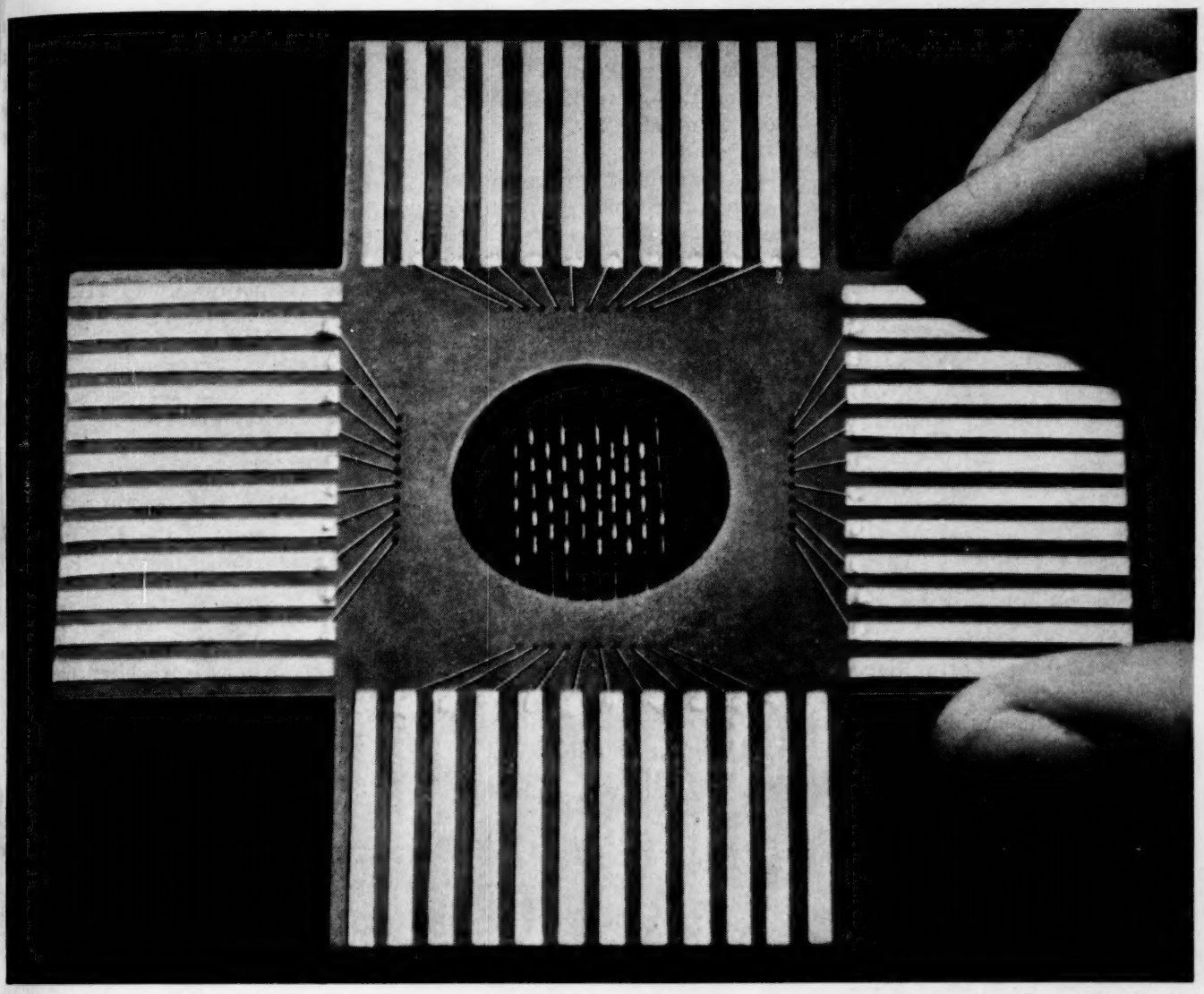

Model (simplified) illustrates basic structure of magnetic "Twistor" memory—magnetic and copper wires interwoven as in a window screen. Twisted condition of the magnetic wire shifts preferred direction of magnetization from a longitudinal to a helical path. One inch of twisted wire, thinner than a hair, can store as much information as ten ferrite rings. "Twistor" was invented at Bell Telephone Laboratories by Andrew Bobeck, M.S. in E.E. from Purdue University.

New twist in memory devices

An ingenious new kind of magnetic memory has been developed by Bell Telephone Laboratories scientists for the storage of digital information. Known as the "Twistor," it consists basically of copper wires interwoven with magnetic wires to form a grid.

"Twistor" gets its name from a characteristic of wire made of magnetic material. Torsion applied to such a wire shifts the preferred direction of magnetization from a longitudinal to a helical path. This helical magnetization has been applied to produce a magnetic storage device of unprecedented capacity for its size.

In a magnetic memory, information is stored by magnetizing a storage element. In conventional memories the storage elements consist of rings of ferrite. In the "Twistor," they consist of tiny segments of hair-thin magnetic wire. At each intersection of the grid, one such segment is capable of storing a binary digit.

The "Twistor" is simple and economical to fabricate, and its minute energy requirements are easily supplied by transistor circuits. Bell Laboratories engineers see important uses for it in future telephone systems which demand the compact storage of much information, as well as in digital computers for civilian and military applications.

BELL TELEPHONE SYSTEM

(Continued from page 2)

required by the combat aircraft?

4) If a separate helicopter force is necessary to implement this system, would it deprive the amphibious commander of a sizeable portion of his major means of mobility, especially when we are lacking in sufficient helicopters and pilots?

5) By the time such a system could be developed and equipment provided, would the support aircraft have been replaced by missilery?

If these questions can be answered, then the theory of launch/retrieve certainly deserves full support.

Capt A. D. Allen, Jr.
USS Thetis Bay
c/o FPO, San Francisco, Calif.

Fitness Reports

. . . From time to time I have read with interest the vast amount of administrative work within the Marine Corps. From my experience with the Organized Marine Corps Reserve I feel that a change in the PRAM would greatly lessen this unnecessary paperwork. I am referring to fitness reports and proficiency markings (Page 4 of the SRB). PRAM states that fitness reports for certain members of the Regular establishment and of the Marine Corps Reserve will be submitted semi-annually. I see no reason why a fitness report of a Reservist should be submitted semi-annually when the period of observation is for approximately 24 drill periods as compared to approximately 120 days of duty for a Regular Marine. The semi-annual proficiency marking is also unnecessary for the same reason.

I suggest that proficiency markings and fitness reports of Organized Reservists be submitted annually at the end of each calendar year. This change would certainly lessen the vast amount of paper work required for a Reserve unit. It would also give the reporting senior a more thorough evaluation of the Marine to be graded.

MSgt J. P. Sepsis
1320 Hull Drive
San Carlos, Calif.

John Heath

. . . In the "Haslam vs Witkowski" shooting discussion I would like to pass on an observation made by Capt John Heath USMC, who was KIA on Peleliu. John was on the Marine Corps Rifle Team in the late 30s; was a gunsmith before he came into the Corps; claimed he was shot at by "revenooers" at the tender age of 5 in the hills of Pennsylvania bordering on West Virginia. Quite a man and a fine Marine.

Anyway, one day at New River, John was holding school on British weapons. He picked up the Enfield rifle and said, "This rifle is the result of many years of war, and not the result of many years at Camp Perry like our Springfield rifle."

Capt Nicholas Cappeletto
1st For Svc Regt
Camp Pendleton, Calif.

Public Relations

. . . John A. Lejeune once said that the future success of the Marine Corps depended upon the efficient performance of all the duties assigned to the officers and men of the Corps, and upon bringing this efficiency promptly to the attention of the public.

Granted, the Marine Corps gains respect through deeds and action, not through the tricks of clever advertising and public relations men.

However, these same trained specialists are very necessary when the second half of John A. Lejeune's statement is considered. We must communicate with the public and bring the story of the US Marine Corps to them. In modern America, an efficient, well-trained public relations staff is important to the future success of the Corps.

Therefore, it is very important that the junior officer begin to comprehend the importance and significance of successful public relations before he is overwhelmed with other duties and responsibilities.

One of the places to start this "public relations awareness" program would be in Basic School. In this way, the junior officer would begin his career with the proper indoctrination. In addition, courses could be introduced into the Extension Schools curriculum and also into the curriculum of the MCI.

Another place to include instruction in public relations would be in the schools prior to commissioning. The US Naval Academy could have courses in military public relations along with the Marine Option of the NROTC.

By means of this early indoctrination, the new Marine officer would better instruct each Marine under his command in the individual Marine's responsibility to advance the information program of the USMC in personal relations with civilians and with the community at large.

Midn 2/c C. A. Fleming
NROTC University of Washington
Seattle 5, Washington

Bouquet

. . . On 8 January 1958, you sent me two copies of the Marine Corps GAZETTE containing Dr. James D. Atkinson's article "American Military Policy and Communist Unorthodox Warfare."

The article is excellent. I considered it worthy of the attention of the CNO and gave it to Admiral Burke to read. He concurred with my evaluation.

We have been very much impressed with this and other articles Dr. Atkinson has written in the past. He is a sound thinker and able writer. Your kindness in making his latest article available to us is very much appreciated.

Cdr Frances E. Biadasz, USN
OPNAV/OP-OO/hls
Navy Department
Washington 25, D. C.

I Take Issue

. . . The controversy over various infantry drill systems will probably never be put to rest. However, I must take issue with my former shipmate, SSgt Lohan if he means to imply in his letter published in the May 1958 GAZETTE that all graduates from the recruit depots are proficient in the 13-man squad drill.

My own experience with this so-called new drill, both at Parris Island and at the 1st ITR, has been that the new Marines have at best mastered only one position of the drill and they are somewhat familiar with perhaps one other position. This condition exists in spite of the fact that approximately 100 hours of the recruit syllabus are devoted to infantry drill.

Something is wrong. Either enough time is not being devoted to the new

(Continued on page 7)

FLOAT IT, FLY IT, CARRY IT—

TOUGH NEW MARINE CORPS MICROWAVE RADIO

On remote beaches, atop isolated mountains, in helicopter assaults—wherever the Marines go, their Raytheon microwave communications system goes, too!

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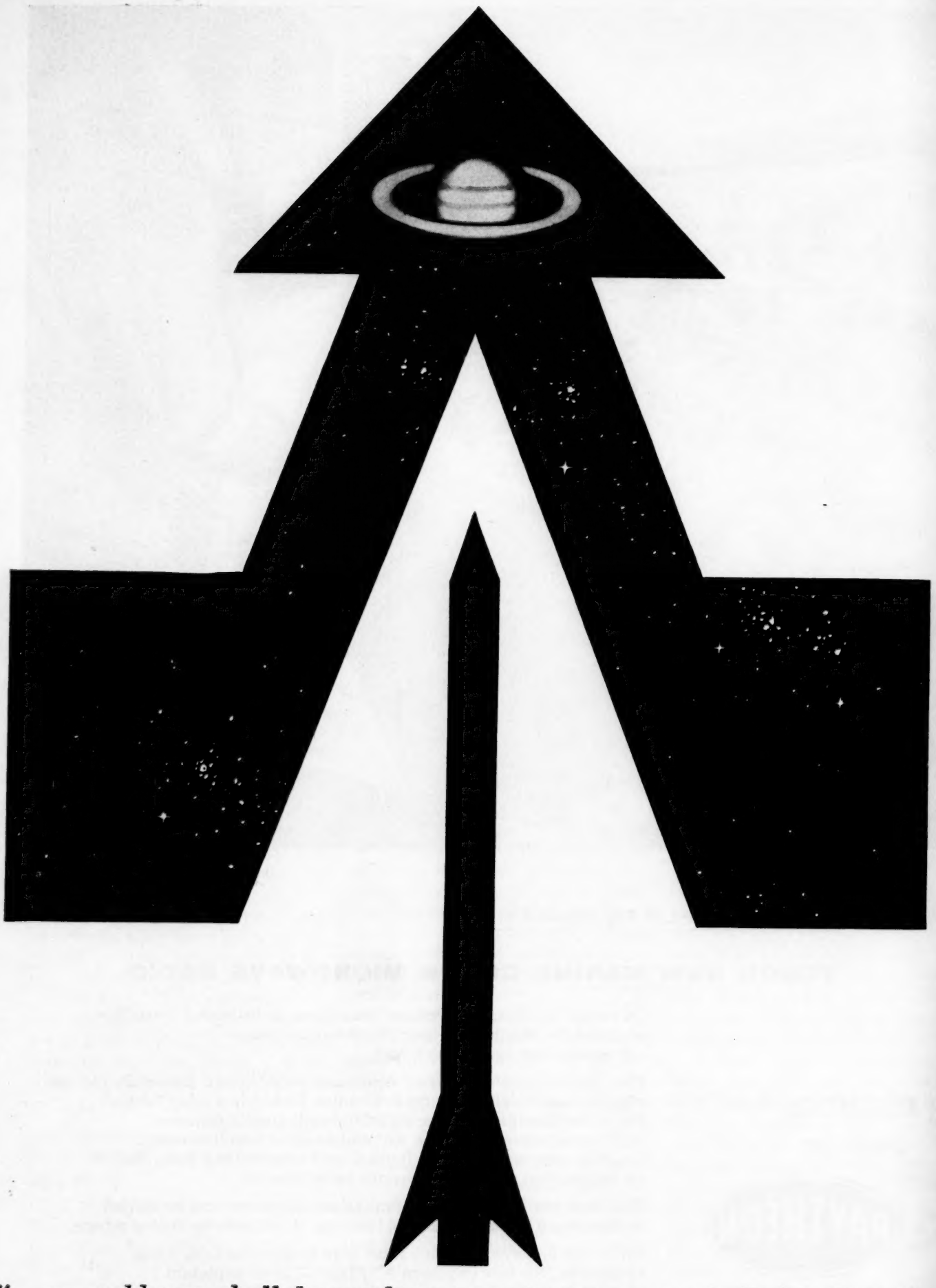


"...your old men shall dream dreams, your young men shall see visions."

JOEL 11:28

This is the Missile Age. But where will it lead? What are its visions?

At Martin, advanced design engineering and pure science are independently at work seeking answers to these space-sized questions.

Advanced Design: Top systems designers, requirements specialists and creative engineers—on such pioneering projects as VANGUARD, TITAN and a variety of related space systems developments—are already applying their cumulative knowledge to tomorrow's technical problems of lunar probe and manned orbit vehicle design.

Pure Science: And at our Research Institute of Advanced Study an already established and recognized organization of independent scientists is at work in the field of fundamental research, which alone can open the closed doors of tomorrow's technology. Work currently under way at RIAS includes new investigations into particle physics, gravitation, photosynthesis and cosmic radiation.

Somewhere in the early hours of tomorrow, these two main bodies of creative effort will meet on the threshold of a new age beyond the missile.

MARTIN

BALTIMORE·DENVER·ORLANDO

(Continued from page 4)

drill or the drill is too complicated. The drill instructors are not to blame, for they work their hearts out.

I am inclined to believe that the 13-man squad drill is too complicated to be mastered in the time which a modern, fast moving Marine Corps can afford to devote to it. If the drill is not being performed properly after present allocations of time in the recruit syllabus, then the drill is hardly worth perpetuating. As for the performance of the drill by Marines in the FMF and at the posts and stations, they attain a marginal proficiency, certainly not the level of performance one normally expects of Marines.

If the drill is a burden, why not admit it and return to the less complicated *Landing Party Manual* drill?

Maj F. H. Campbell

Hq Co, Hq Bn
Camp Lejeune, NC.

"Junior School"

. . . Although I realize that the name "Junior School" was probably chosen to differentiate its level of instruction from that of "Senior School," I am convinced that the choice was a poor one as a recent change to MCO 1520.2A serves to illustrate. This order lists other service schools that are on a comparable level with our Junior School. These are: "Command and Staff Course, Naval War College;" "Army Advanced Branch Courses;" "Post Graduate Courses;" and the "Canadian Army Staff College." These titles all carry a connotation of an advanced level of military proficiency.

What does Webster say about the adjective "Junior?"—1) Younger. 2) Lower in standing. 3) Composed of juniors. 4) Inferior or subordinate as to right of preference.

The full import of this was brought home to me while talking about my next duty assignment with my father. When I told him that I expected to be sent to Junior School in the near future, he gave me a puzzled look and said, "I thought you went through that course 12 years ago?" I explained that he was mistaken; that it was Basic School I had attended. Still puzzled, he replied, "What's the difference?"

Maj C. F. Runyan

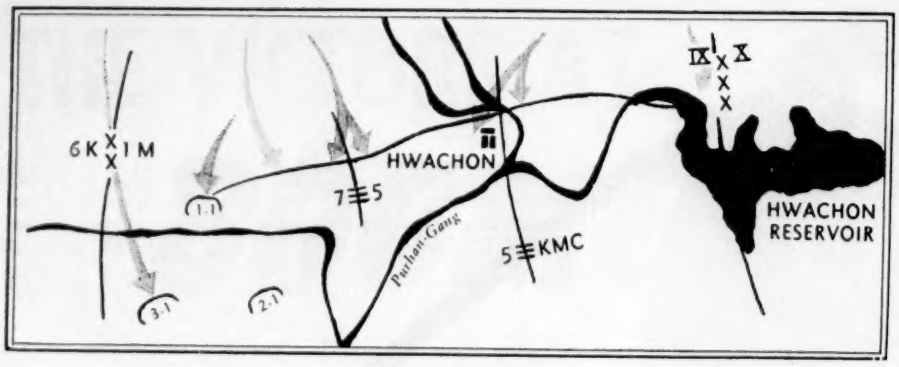
HQMC
Washington, D.C.

THE VICTORS AT BOOMERANG

By Capt P. D. Reissner, Jr.

In the June 1957 GAZETTE there appeared an article on air support operations by the 1st MAW in Korea during 1951. The authors gave the impression that during the April Chinese counter-offensive vast quantities of aircraft were sent in support of 1/7 and 1/1. While this was probably true in the case of 1/7, 1/1 was not so fortunate. The letter which I prepared to send to the editor to correct that erroneous impression became a synopsis of the Battalion's operations during the period 22-24 April 1951. A full review of these operations led me to believe that a recounting of them in a full size article should be of interest to student tacticians, particularly those who look to the past for indications of the future. During the operation the battalion was required to sustain itself independently without adequate air support against a numerically superior enemy. The battalion successfully accomplished its assigned mission under these circumstances. That it did so, lends heavy support to the belief that the atomic era tactic of the use of widely separated units, incorporating heavy organic fire support, can be successful. It is with this thought in mind that the story should be viewed. If chronology or unit designations are in error I beg the heat of battle and the passage of 7 years since the action took place. In this connection the sketches which accompany the narrative are more "schematic" than actual.

ON THE EVENING OF 22 APRIL 1951, the 1st Marine Regiment, held as Corps reserve, was bivouacked in the peaceful Chunchon valley. While the Marines engaged themselves in the myriad diversions of a reserve area, momentous events were taking place many miles north. The Chinese Communists (Chicoms) had launched their long expected spring counter-offensive across the entire front of Eighth Army. In a matter of hours the 6th ROK Division had collapsed under the weight of the assault. A gap of more than 1,000 yards was opened between the 1st MarDiv and the nearest ROK unit. The pressure on the 7th Marines, the left flank unit, built up steadily. With this flank flapping in the breeze, the situation was serious. Should the Chinese Communists press their attack through the miles of undefended ground west and south of the 1st Mar Div and capture the bridge which spanned the Pukhan-Gang and joined the division's MSR, all of IX Corps would be cut off. To prevent this, IX Corps ordered the 1st Marines out of reserve at 0100, 23 April to take up blocking positions on the vulnerable left flank. While the reserve forces moved up, the division pivoted on



Sketch #1

its right, drawing back its left wing to more defensible ground. This was the beginning of a planned withdrawal which was to culminate many miles south just above Hongchon. The service and headquarters units packed up and moved south while the infantry and their combat support prepared to halt the enemy's drive. By mid-day of 23 April the deployment of the 1st Marines was completed. 1/1 was situated a mile west and to the south of 1/7; 3/1 was a mile or so south of 1/1 and 2/1 was south and east of 3/1; these units thus forming a triangle west of the division's MLR. (Sketch #1)

The position occupied by 1/1 was a boomerang-shaped ridge which formed one half of the hill chosen for the blocking position. At the highest point a trail led north into a saddle which then rose to the opposite peak that formed the other half of the hill. The peak was a shade higher than Boomerang. A 14 man outpost was placed there to warn of the enemy's approach and give the MLR time to prepare for an assault. "C" Co. occupied the high ground, "B" Co. the left tip, "A" Co. the right. Elements of Headquarters Co. and Weapons Co. tied in the flanks of "A" Co. and "B" Co. on the low ground. For fire support there was one platoon of tanks from the Tank Battalion and one platoon of the regimental 4.2s. Two battalions of artillery furnished direct support. (Sketch #2).

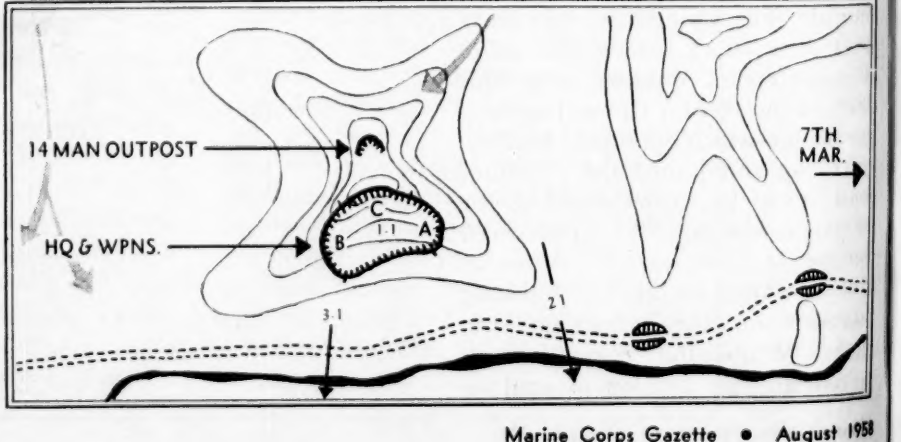
No enemy had been sighted while the battalion was moving into position. An army artillery unit which had been with the ROKs reported that the enemy had probed their position the previous night and had been driven off. 1/1 therefore expected a full scale attack that evening and the Chicoms saw to it that we were not disappointed.

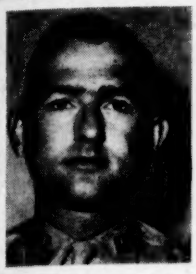
The enemy launched their first assault well after dark. By not utilizing a pre-assault bombardment and by stealthily approaching our outpost, they achieved complete tactical surprise. Our outpost was overrun and forced to return to the MLR, losing a machine gun and its ammo in the process. The momentum of the drive carried the enemy into the battalion main battle position and enabled them to overrun one squad and part of another. The assault units were stopped by fire from the adjacent squads and driven off. The original MLR was fully restored. The enemy reorganized immediately and launched a second assault. Without the element of surprise the penetration this time was considerably smaller and again the assault unit was stopped by fire and driven off and our MLR restored.

Having checked my platoon's (2A) lines, I had returned to my CP to catch a few winks before the enemy arrived. Being awakened by the tremendous racket from the first assault on "C" Co., I climbed out of my hole. The "walking" wounded from "C" Co., following the natural line of drift, were pouring into the rear of my CP. The first of them were almost shot by us, since it was pitch black and they weren't recognized until they shouted to us. They were under the impression that the Chicoms had gained unchallenged possession of the high ground. Consequently, my Platoon Sergeant organized a blocking position around the rear of the CP, utilizing platoon headquarters and the "walking" wounded from "C" Co. From our vantage point things were horribly confused. Communications with 1A, which tied us in with "C" Co. had been lost. When "C" Co. troops shifted left to drive out the enemy, 1A shifted position to the left to cover the gap between them. In the heat of battle the word was not passed to us. We notified Company headquarters of the situation as we saw it. Moments later the Company Commander arrived in 2/A CP and together we traced the line up the ridge into the gap between 1A and 2A and eventually found the First Platoon leader. Assured that his area was under control we proceeded on to "C" Co. CP where we were briefed fully by the "C" Company Commander. The line was intact but stretched thin because of very heavy casualties. After returning to his CP, the commanding officer of "A" Co. attached one squad from 3A to 2A, to cover the gap between 1A and our left flank. The enemy assaulted, regrouped and assaulted all night long without further success. The severity of the attacks, however, took a heavy toll on "C" Co.

The enemy was heard reconnoitering "B" Co.'s lines and mine. The outposts were withdrawn in anticipation of a new assault here, but we were not even fired upon. An attack

Sketch #2





Capt Reissner enlisted in the Marine Corps in 1945 and was commissioned in 1949. In Korea he served as: MG Plt Ldr; Mortar Section Ldr; Rifle Plt Ldr; ATA Plt Ldr. He attended the Accountable Officers Course, MCSS, Camp Lejeune, N. C. in 1955 and later served as Group Accountable Officer, MAG-33. At present he is CO, H Co, 2d Bn, 9th Marines.

here would have been welcomed since our position fronted on a gently sloping, grassy field which ended in the woods about 30 or 40 yards to the front. The field was flanked with machine guns and other automatic weapons. Apparently the enemy was smart enough not to take the bait.

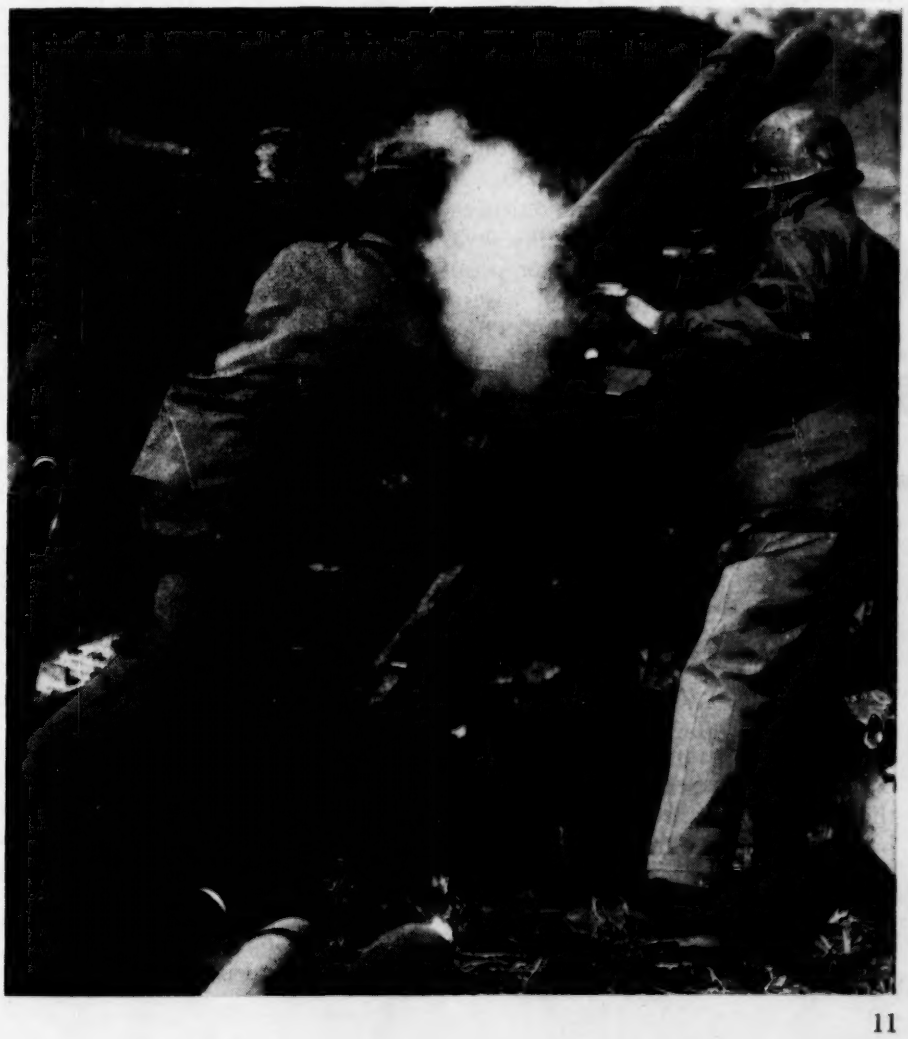
In the rear of the battalion position the Chicoms probed by fire. Upon the immediate heavy and accurate return of the fire, they withdrew and failed to press an attack, but they were active on all sides of the perimeter during the night. An ammo truck which the 7th Marines tried to send through to us was attacked and burned. The driver, who was wounded, played dead and was able to escape when our fire scattered the enemy.

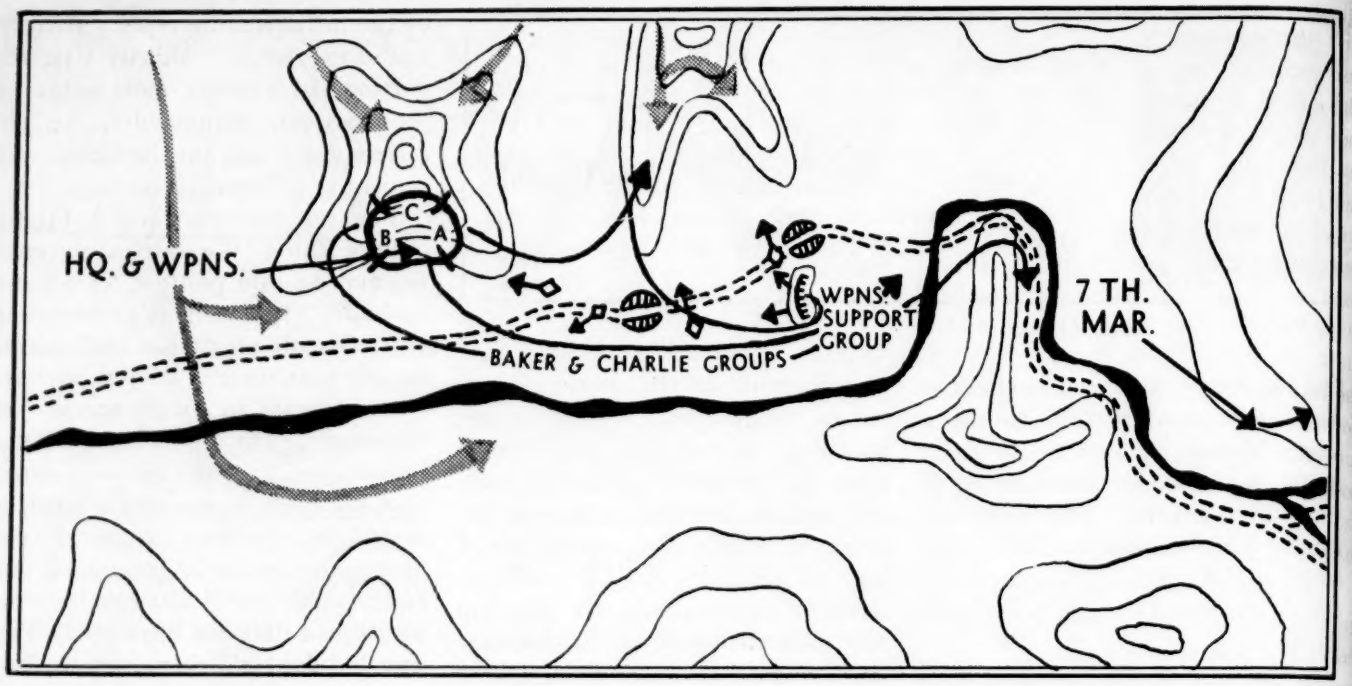
Friendly artillery poured continuous fire on enemy avenues of approach. The Chicoms, on the contrary, used a minimum of mortars and artillery fire, relying primarily on grenades and small arms. Their assault small arms fire caused numerous casualties among our machine gunners and BARmen on whom they concentrated. The machine gun and ammo the enemy had captured from our outpost became a particular source of irritation.

The lines held firm and any gaps that were created during the numerous assaults were quickly filled by personnel drawn from other parts of the perimeter. While weakening the perimeter as a whole, the enemy was confronted at the point of attack with a position just as strong as it had been during the previous assault. Their failure to shift the attack was a decisive tactical error. Shortly before daylight the Chicoms abandoned efforts to crack our defenses in favor of something new.

After the first 2 assaults I had stationed myself at the northeast corner of the position, roughly in the center of the line. This point was as good an observation point for artillery as was available and was the point at which the enemy would have to attack my line, if at all. As daylight approached, the horizon was scanned for signs of the enemy and we observed a breath-taking sight. On the ridgeline to the immediate right, the enemy was deploying a column of at least 400-500 troops. The unit was moving at the double to take position overlooking our only route back to the division. A frantic call for fire was answered by the disheartening reply: "Battery ammo exhausted." Shortly after reporting the enemy's movements to the company commander, we received word that the battalion was returning to the division.

The sun had risen on a bright clear morning. We watched the enemy moving into position for almost an hour. The excellent weather was greeted with no undue enthusiasm on our part since it offered our airborne friends an excellent view of the enemy. The orders came for the withdrawal. In order for us to extricate ourselves by use of the road, it would be necessary to attack the enemy on the high ground to our right. This was indeed to be "an attack in a different direction." The one hundred-odd casualties we had accumulated during the night were loaded aboard every available piece of rolling stock. They made a break from the perimeter. Mortars and tanks delivered suppression fire, but the enemy was still able to deliver a large volume of effective small arms





Sketch #3

fire on the column. The driver of the lead truck leaped out and dove for a nearby ditch. His truck blocked the entire column. An alert Staff NCO jumped after him and planted a well placed size 10 boondocker with sufficient force to overcome the driver's inertia. The driver remounted his vehicle and the casualty train departed posthaste. We had requested 2 helicopters to air-lift 4 of the most critical cases. The first one swooped in low, but not low enough. It became the victim of an enemy machine gun, dropping from the sky like a rock. The second copter was waved off and the 4 critical cases were loaded out by vehicle also. The pilot of the first copter was unhurt but the enemy machine gunner who had exposed himself in the process of downing the whirly-bird was killed by small arms fire and his gun destroyed by a 3.5 rocket.

The orders for the withdrawal called for "A" Co. (least engaged) to attack the high ground to the right, to occupy the nose leading to the crest and prevent the enemy from physically cutting the road. "C" Co. (most heavily engaged) was to hold its present position and prevent the enemy from attacking the rear of the column. The remainder of the battalion (in the order: "B" Co., Headquarters and Weapons Company) was to escape by the road and take up a more easterly postion to cover the remainder of the battalion. The tanks, 81's, 4.2's and heavy machine guns were to support "A" Co.'s attack of the enemy position and remain in support of operations as rear guard after "C" Co. passed through and joined "B" Co. (Sketch #3)

A "FLASH" request for air support was answered by 2 partially loaded planes diverted from another mission. This was the total air support rendered 1/1 during the operation. Since the entire front was under attack we assumed that the requests for air outnumbered the available aircraft.

The "B" Co. group was able to proceed as ordered and by turning the bend in the road withdrew from enemy fire. Numerous casualties were suffered crossing the open ground. Supported by heavy 60mm mortar fire and a 10 minute barrage by the 4.2's, "A" Co. (in the order: 3A, 2A, 1A) occupied the nose leading to the enemy's high ground. We lay in position delivering fire with all available weapons. The nose was devoid of any concealment or cover other than a few trenches which the enemy had dug months before. Without air support a high casualty rate could be expected. "C" Co. disengaged successfully (not however, without suffering additional punishment) and proceeded beyond the bend in the road to join "B" Co. As fast as "C" Co. vacated ground, the enemy occupied it. They attempted to flank "A" Co. from the woods to the left rear across the valley. Our few remaining mortar shells, 90mm, and some 50 caliber fire, broke up the formations and prevented the Chicoms from launching an attack, but they were still able to deliver fire from 3 sides.

When all units had withdrawn safely, the "A" Co. Commander designated 2/A as rear point for the rear guard. 1A, mortars and company headquarters (less the Co. Commander), pulled out first and proceeded beyond the line occupied by the supporting weapons group. 3A was then withdrawn thru us. These 2 platoons regrouped in a partially defiladed area across the valley floor. The enemy's volume of fire increased in proportion to that in which ours decreased, resulting in an accelerated casualty rate. By this time the battalion's total casualty figure was around 275. 2/A's troops had no more than 8 to 16 rounds of ammo per man and the machine guns were down to their last 250 rounds. Our 60's, the 81's and the 4.2's were out of ammo entirely. The tank platoon had 2 rounds of 90mm left and they were being saved to perform another task.

When all other troops had withdrawn, the "A" Co. Commander gave me the signal to pull out. A draw in rear of the line of heavy machine guns was the assembly area. The

squads were released one at a time with the machine guns pulling out just prior to the last squad. The platoon headquarters (less the Platoon Sergeant), remained with the last fire team. The Platoon Sergeant had been ordered out with the first squad in order for him to be able to reorganize the platoon as its elements arrived in the draw. When all 2/A's units were practically in the draw, the platoon headquarters and the last fire team departed from this position. The trip to relative safety proved to be worse than the exposed position we had occupied. Crossing the valley floor we sustained the majority of our casualties.

The enemy stormed over the ground as soon as it was vacated but heavy machine guns kept them at a respectable distance. Some of the enemy swarmed over a trailer, left behind, which contained 3.5 ammo, demolitions and flame thrower fuel. One of the two remaining 90mm rounds, which the tank commander had saved, scored a direct hit on the trailer with its highly volatile cargo.

The immediate reorganization of the platoon by the Platoon Sergeant facilitated our march out of enemy range. The company marched out of the valley in a single column at the quick step, ignoring the fire the enemy was still able to bring to bear. At this point a good portion of the column was in defilade and the enemy's fire had become more and more inaccurate because of the short effective range of his weapons. As soon as we passed the bend in the road we were completely masked from the enemy. The battalion leapfrogged back to the division area without incident.

The cost of this operation was small in terms of equipment; high in terms of men. The greatest cost to the enemy must been the blow dealt to his morale. He had assaulted in superior numbers throughout the night. Time after time he failed to achieve his objective. He had then tried to cut us off and failed at that. In the bargain we boxed his ears soundly and made him pay dearly for every inch of ground. Combined with the defense by the 3d Battalion we had successfully prevented the Chicoms from exploiting their early gains. We had accomplished our mission; the enemy had failed to accomplish his.

The mission assigned the reserve forces was a classic one and its effective execution an example to student tacticians. From later intelligence it became obvious that the deployment of our force had confused the enemy. The stubborn defense by 3/1 and 1/1 had slowed the enemy offensive, gaining valuable time for our main body to reorganize and effect an orderly withdrawal. In the process the enemy was punished severely.

The efficacy of the perimeter defense for units operating independently once again established itself.

In all fairness, however, it should be mentioned that its success was partially due to the enemy's insistance on attacking the same point time after time, not realizing that we had continually reinforced the position at the expense of the perimeter as a whole.

Unless supporting fire is very heavy, daylight withdrawals in the face of the enemy are costly. Having to accomplish ours without adequate air support and, in the late stages, without artillery support was a severe handicap.

Orders to units executing rapid withdrawals in the face of the enemy *must be exact.* A peculiar psychology afflicts even disciplined troops who are proceeding away from combat. The leaders must maintain tight control. Hindsight showed me that my orders had been too sketchy and but for a group of seasoned subordinate leaders our reorganization would have been considerably more confused.

The Marine Corps principle that all casualties must be evacuated proved its value again in the high state of morale during and after the battle. During the hottest part of the fight you could sense that air of dependence and trust, each of the other, that pervades a well trained unit with a high esprit.

Only troops who are subject to tough training and hard discipline can effect orderly withdrawals under fire. Such a manuever requires strong mental and physical courage which is born of confidence. The confidence is instilled by training and discipline.

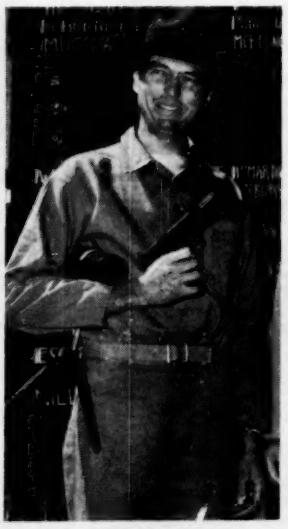
The primary reliance for maintaining order and discipline during such withdrawals rests as always on the leaders, officer and enlisted alike. In such situations the leader must make his presence known to his men. He should be facing the enemy and be among the last to retire, remaining with the last part of his force that deploys as a unit. For the squad leader this would be his last fire team; for the platoon leader, the last squad and perhaps the last fire team; for the company commander, the last platoon. At no time must the leader convey even the slightest attitude of anxiety. In combat, panic can spread like a brush fire. The actions of the leader, therefore, must convey confidence and determination. This aspect of the leader's performance of his duties is probably even more important than how he maneuvers his unit or issues his orders. For units of company size and smaller this last is absolutely essential.

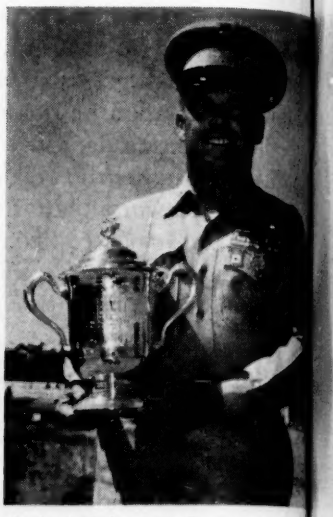
The victors at Boomerang were training and discipline. Every unit in the battalion had that training and discipline to an eminent degree. These Marines are entitled to experience the greatest reward—the feeling of a job well done. USMC

MARINE CORPS MATCHES 1958

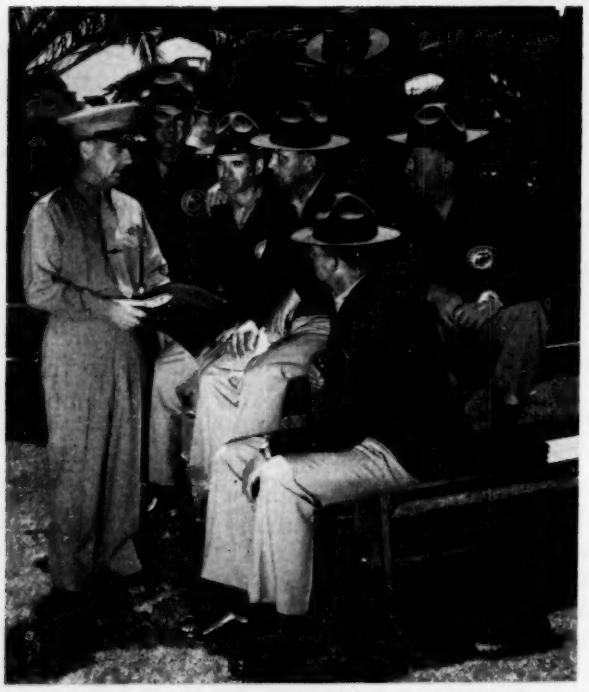
↑ SSgt Orne D. Reid, MCB, Camp Pendleton, Calif, Marine Corps Pistol Champion.

↓ Maj Richard J. Hardaway, USMCR, 12th MCRRD, winner of the Lauchheimer Trophy.





↑ Maj Robert E. Dawson, 3d Ma... Marine Corps Rifle Champion.



↑ BGen W. M. Greene talks with the members of the Marine Corps Marksmanship Training Unit. Left to right front row, MSgt M. H. Peak, MSgt J. A. Davenport, MSgt P. V. Bailey, MSgt W. J. Dynes, Jr.; rear, MSgt J. A. Kockan and MSgt F. O. Freeman.

↑ Winning Pistol Team (Eastern), Marine Corps Matches, score 1382X1500, left to right TSgt W. A. Herrington, MCB, CLNC; Sgt H. N. Schrawder, 2d Mar Div; MSgt L. A. Chociej, MCB, CLNC; 1st Lt K. E. Peterson, MCB, CLNC; TSgt N. A. Pratt, NATTC, Jacksonville, Fla. and Cpl D. R. Bartlett, 2d Mar Div.

Marine Corps Rifle Team Champs (Eastern team), score 2819X3000. Left to right rear, SSgt W. O. Baughman, MARTC, NAS, Niagara Falls, NY; Capt J. Y. Henderson, MCAAS, Beaufort, SC; Capt C. G. Herbert, MCRDep, PISC; TSgt D. G. Pope, 2d MAW; and Sgt E. R. England, MCB, CLNC. Front row, Sgt L. M. Hunt, 2d MAW; 1st Lt W. R. Pedersen, 2d Mar Div; MSgt C. D. Castanedo, 2d MAW; WO F. O. Scroggs, Jr., MCAS, Miami, Fla.; and Cpl J. R. Bowen, MCS, Quantico, Va.

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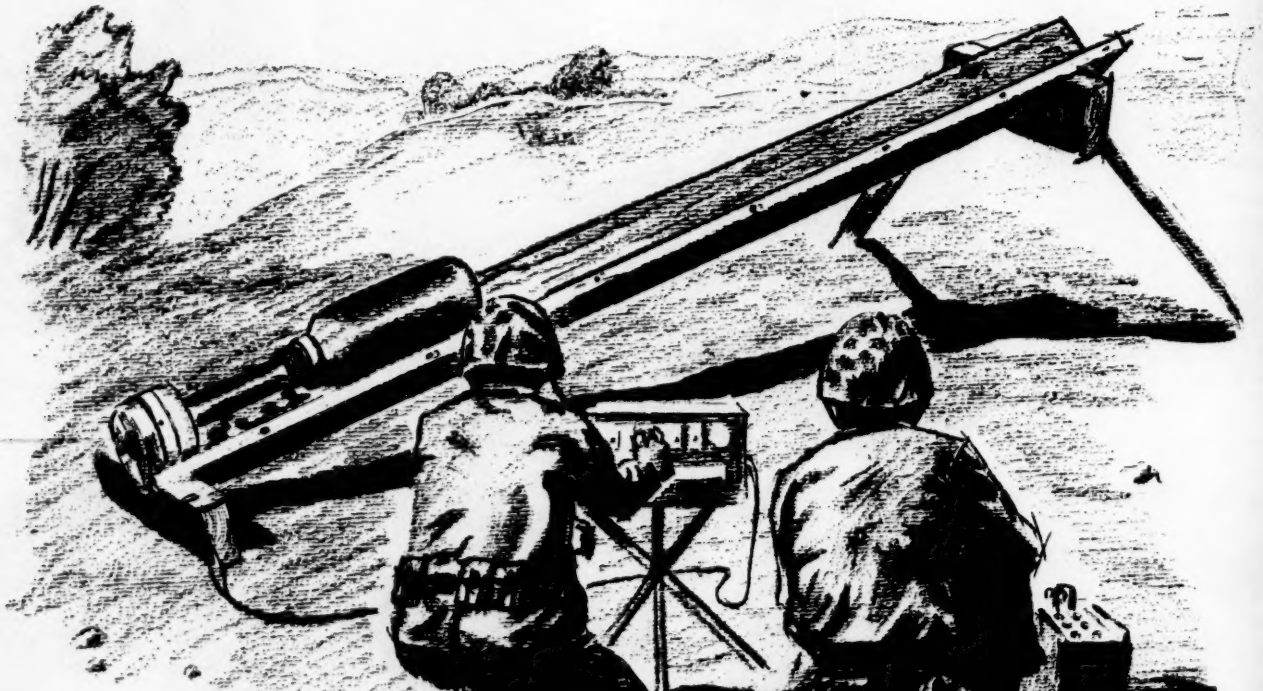
THE VSRBM

Hope For Push-Button Fire Support

By Lt Col T. N. Greene



ONE OF THE REASONS THAT THE MARINE CORPS gets the job done is the tradition of leadership which regularly and deliberately turns attention from the big picture down to the little picture of troop leadership, troop tactics, and troop requirements. Accordingly, at least for the moment, let's look away from the glamorous frenzy of activity on the missile launching pads at Cape Canaveral. There the IRBM has been boosted to launch the Explorer satellite. The ICBM is being tested. Scientists predict bigger and better rockets, boosted to reach the moon, to establish space stations and to travel to other planets.

This is to propose that the massive research and development programs which support the ICBM, the IRBM and the tactical guided and unguided missiles down to the Honest John be screened for an even more basic requirement: a VSRBM (Very Short Range Ballistic Missile). Such a missile, really a simple free rocket, offers a hope of true push-button fire support at the troop level. More important, the VSRBM is a potential answer to the 2 horns of the dilemma of providing adequate fire support to dispersed maneuver elements.

Half of the problem is tactical. Targets are bound to occur which are too small for an atomic weapon, but too large for one battery of artillery. Increased reliance on air support is only a partial answer, particularly at night and in bad weather. The requirement to control increased area requires more emphasis on harassing and interdiction fires by artillery or missiles. An enemy atomic capability will make counter-battery fires extremely urgent. The other half of the problem is logistic. Balanced against the need for heavy conventional fire support, is the extreme weight of artillery ammunition used in quantity. It has been computed that more than 80 per cent of WWII tonnage consisted of artillery ammunition. Helicopter supply has amazing potential, but it appears evident that available helicopters cannot be used exclusively for supply. Either fire support must be reduced drastically, or it must become more flexible, not only tactically but logistically.

This is the background of the recommendation for a VSRBM. Let's

compare capabilities of modern rocketry with tactical and logistic requirements to determine the potential of the VSRBM.

It should be readily apparent now to anyone who reads the papers that the free rocket has come a long way since the Chinese first launched skyrockets at their foes and since Francis Scott Key wrote the "Star Spangled Banner" by the "rockets' red glare." The problems of inaccuracy, malfunction and limited range that existed as late as the Korean hostilities, had to be licked in recent spectacular rocket accomplishments, and they have been licked. In less glamorous applications, simple, reliable rockets power the Honest John warhead, the Ontos' lethal fangs, and devasting air-to-air and air-to-ground missiles. These applications do not depend on guidance. They are based on sheer power and accuracy. In the "bread-and-butter" field, the 4.5" rocket has been developed, since Korea, into a much more accurate and reliable weapon with a 50 per cent increase in range. This rocket now fires nearly 10,000 yards, with an accurate pattern which compares favorably with the efforts of artillery batteries to mass from dispersed positions. Since the old-style ammunition is still being used up in training, the improvement has not been generally noted. The important point is this: the optimum has not been reached. In the development of a simple ballistic missile, or free rocket, such as the 4.5" rocket, we now have the capability to develop sizes, ranges and accuracy comparable to artillery weapons. From the standpoint of hardware, we can have a VSRBM—say a range of 15,000 to 30,000 yards — of almost any desired size. Any unguided VSRBM developed would have the significant advantage of any rocket, a very light launching mechanism. This means assured helicopter transportability.

On the debit side, such a weapon would cause revealing flash and blast on firing and require immediate displacement. This is a disadvantage we have accepted in the Honest John, the Ontos, and other missile and rocket weapons currently under development. This, then, is what we could build: a VSRBM capable of firing an artillery-type shell of any desired caliber to ranges between 15,000 and 30,000 yards with accuracy comparable to artillery from a helicopter transportable launcher. What use could be made of such a weapon?

Artillery has 2 functions: to support the direct engagement of combat forces along the front and, also, to add depth to combat by attack of enemy command posts, supplies, approach routes and artillery. The VSRBM is not proposed as a replacement for the first function. This task can well be accomplished by artillery, including mortars. However, the VSRBM would have a significant reinforcing capability. The impact of the modern concept and reorganization has had a simple mathematical result on the capability of artillery to support—less tubes per yard of front; hence, less capability. Artillery traditionally masses fires. In WWII, and frequently in Korea, all artillery tubes along a division front could and did bear on one target. With unit separation the ability to mass is reduced. In the first place, many tubes are simply outranged. Secondly, and less well understood, separation can reduce the effectiveness of massed fires to the point of diminishing returns. Traditionally, as in WWII situations, the massing of 2 or more battalions of artillery under ideal conditions is supposed to cover an area about 400 yards in diameter. Under separated conditions, single batteries or platoons may be farther apart than 2 such WWII battalions. Further, their communications are not based on the solid net of WWII wire. Thus, massing is slower and less reliable. The obvious solution to the problem is a higher rate of fire from fewer tubes. This is the prime capability of a mortar, but the mortar has inherent range limits. The other outstanding high rate of fire weapon is the rocket, and tactical applications become more obvious as unit separation increases.

There is a second way in which the VSRBM could reinforce the direct engagement of combat forces. Body armor was developed because studies showed that better than three-fourths of combat casualties came from mortar and artillery projectiles. Artillery is an effective arm, but it does not seize or hold ground. Artillery helps the infantry seize or hold ground by some destruction of the enemy, but also by neutralization. In its simplest terms, neutralization amounts to frightening an enemy soldier so that he protects his life at the expense of his mission. Studies have been made of what it takes to neutralize a man, and results show that caliber plays an important part. For neutralization, one large-caliber round is the equivalent of many smaller-caliber rounds. Accordingly, preparation and defensive fire should be planned to include a number of large caliber rounds, but in practice this is difficult to arrange and is done less often than it should be. Just a few rockets of 6" to 12" caliber, even if very short range, could greatly assist in rapid and effective neutralization of enemy troops in the attack or defense.

The primary application of the VSRBM, however, would lie in adding depth to combat. Here, helicopter transportability and the small size of the launcher play a key role. Surprisingly, a 155mm self-propelled gun does not reach as far in a "separated" situation as first glance at its range of well over 20,000 yards would indicate. First of all, the gun cannot be placed regularly in the front line of troops and if it is displaced forward for a hit-and-run mission it will be out of action for hours. Secondly, if the gun is not brought forward there may be serious problems in placing the firing unit and the unit that acquires the target on common control. This goes beyond the simple adjustment of fire by a forward observer. Targets may be acquired by radar, by patrols, or by flash observation bases. Adjustment of fires can be difficult and is compounded by lengthy communication channels. Placement of the firing unit as close to the target-acquiring element as possible has very obvious advantages. In this manner is developed the paradox that a VSRBM with a range of 15,000 yards could well be more effective in placing heavy, accurate fire deep into enemy rear positions than 20,000-yard weapons laterally dispersed 5,000 yards behind the front lines and slow to displace.

Artillery must have good communications to function at all, and there is no question that communications are improving and will con-

LtCol Greene was commissioned in the Marine Corps in 1942. He served with the 2d Mar Div during WW II. In 1946 he completed the Advanced Artillery Course, MCS, Quantico, and since then has served with: HQMC, Div of Public Information; NROTC, Iowa State College; Staff, Com Phib Pac; 11th Marines; 12th Marines. At the present time, he is Assistant Fire Support Coordinator, 11th Marines.

tinue to improve. However, consider the allied problems of fire direction, survey and ammunition supply. Often the simplest and quickest method of attacking a deep key target with a significant number of rounds delivered with maximum surprise effect, is to dispatch rockets to do the job. Moving by helicopter or even overland, the mission can be accomplished while preparations are being made to mass an equivalent number of rounds from dispersed conventional artillery. Further, rocket firing positions are not necessarily limited to the so-called front lines. Using helicopters, rockets can be dispatched to fire from the vicinity of outposts held by combat patrols, thus further extending the depth of combat.

Thus, within reason, a VSRBM can be built which would have important application on the "separated" battlefield. Its use would be limited by flash and blast which require immediate displacement. The rocket is a high rate of fire weapon, giving maximum return in firepower for a minimum investment in T/O and T/E. This advantage is partially lost by time "out of action" as the result of frequent displacement. The effectiveness of a VSRBM could be greatly increased if the above limitations could be reduced. What is required, in the words of the space pioneers who plan the big picture for rocketry is a "technological break-through." So far as the little picture is concerned, this breakthrough has been made. As far back as Korea, air-to-air rockets were being fired from pods made simply of cardboard with a plastic coating for weather resistance. Such rockets develop considerably more thrust at launch than would be required for a VSRBM. In emergency, some of the pods have been re-used. A rocket does not require a heavy base plate or emplaced trails for stability during firing. A metal stake or two, driven into the ground, is adequate. Such a system coupled with a plastic or cardboard launcher could be readily engineered to provide a completely disposable rocket launcher. Sighting and elevating mechanisms would

be detachable. Firing of rockets is electrical, and can be readily accomplished by remote control. Such a disposable rocket launcher, or pod, for a VSRBM should weigh little more than the packaging in which rocket and artillery rounds are now shipped and handled.

The tactical applications of pods of VSRBMs dispersed over a division front are somewhat startling. An infantry battalion commander or S-3 who so desired could have a normal barrage or on-call defensive fires wired to pushbuttons in the operations center. Preparatory fires could be equally automatic. Rear area installations would have a ready source of defense—using ammunition just as it comes from the dumps. Such a system would have many advantages for the user—the infantry. Execution by the artillery would present certain problems. The settings for each pod would have to be determined by registrations, survey and meteorological information, the last of which greatly affects rockets. Execution could be handled in 2 ways. First, the pre-packaged VSRBM could be a supplementary weapon for conventional artillery/mortar batteries, to be emplaced near, but not in, artillery position areas and OPs. Second, the VSRBM would be a primary weapon of a general support battalion which would use helicopters as prime movers for emplacing pods of VSRBMs at critical locations across the division front. Logistically, the above use of disposable pods has the obvious advantage that a weapon would be moved each time ammunition was moved. Small teams of 2 or 3 men could emplace and service many pods. The weight and cube of the artillery organization could be reduced, not only by reduction of prime movers and ordnance, but by reduced T/O and required support therefore. Another distinct advantage is not quite so apparent, but is perhaps even more important. This has to do with the provision not only of artillerymen, but of well-trained officers and NCOs. The proposed use of the VSRBM is not as a separate weapon, but as an additional weapon superimposed on the division artillery organization of 3 close support battalions and one intermediate support battalion. This organization already has the responsibility not only of serving its own pieces, but of providing a network of communications, survey and observation across the division front which provides the targets, the registration and direction, and the surveillance of Force artillery units such as the 155mm gun, the 8-inch howitzer, and the Heavy Artillery Rocket, or Honest John. Employment of the VSRBM would economize in personnel by using existing communications, survey, observation, fire direction and trained staffs.

In the words of the missilemen, rockets are hardware. It appears from analysis of capabilities, requirements, and prospective tactical employment, that rockets can provide some of the nuts and bolts to implement the modern concept of amphibious operations. USMC

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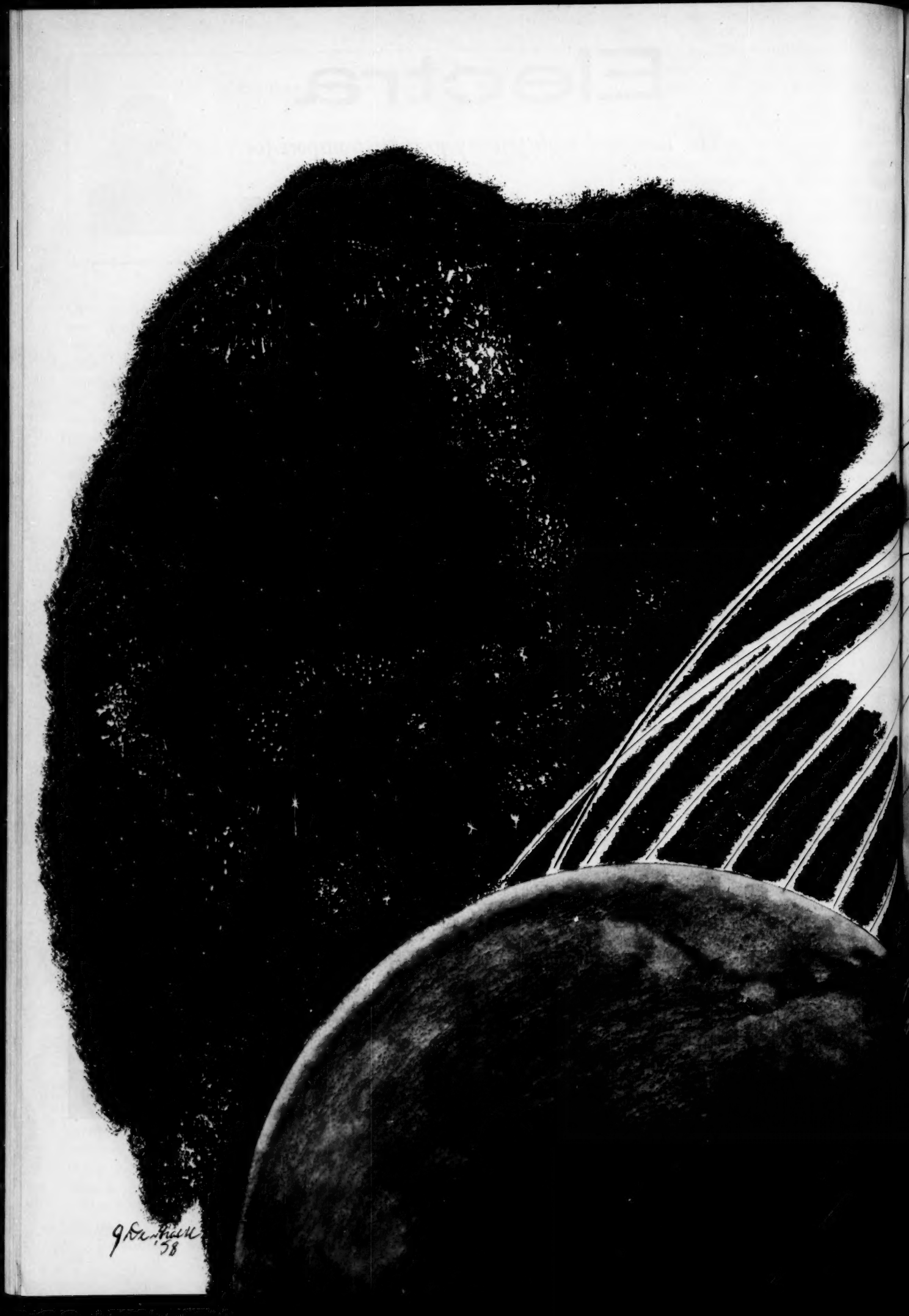


The Challenge of the Space Age

By Dr. Lee A. DuBridge

WITHIN THE PAST FEW MONTHS the space age has dawned. Many people of varying degrees of competence have ventured to peer into the future and make predictions as to where we are going. Needless to say, these predictions do not all agree with one another—and yet, to some extent, to visualize the challenge of the space age we must make a choice as to which of these predictions we are going to believe in.

Now who am I to try to make such a choice? I am not a rocket technologist or a space engineer. In fact, I am not any kind of an engineer—I am only a physicist. Still worse, I am only a *former* physicist since the duties of administration allow me to have only a passing acquaintance with the flow of modern physics. As it happens, however, the institution with which I am connected [California Institute of Technology] manages an establishment known as the Jet Propulsion Laboratory—and this laboratory, as you have possibly heard, has designed and developed rockets for military use and played an important role in the launching of Explorer I. (We will not mention Explorer II.) As a result, by the process of osmosis, I have become aware of some of the problems of launching satellites into space. I must admit that most of the technology of rockets and their fuels and controls and guidance systems are quite incomprehensible to me. But I realized to my joy that the problem of calculating approximate satellite orbits in space was a simple problem in classical physics. The theory was all worked out by Kepler and Newton nearly 300 years ago—and no quantum mechanics or relativity or meson theory or similar erudite subjects are necessary to understand the elements of the problem.

Now this I think is a very fortunate situation. We will probably be

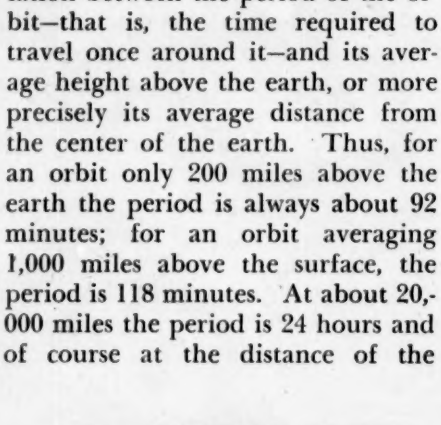
spending a lot of money on space technology in the coming years, and it is comforting to know that we need not be at the mercy of a lot of so-called experts. If someone makes a statement about this or that phenomenon having to do with space travel, we can get the nearest high school or college physics teacher to tell us whether he is right or not. It may take an expert engineer to tell us how much some of these things are going to cost, but about how things behave once they get into space, there do not need to be any mysteries.

So what I propose to do now is to look at space travel and space exploration from the point of view of the physicist—and try to separate the true from the false, the sense from the nonsense in the things that are now being said. Possibly also we can separate the cheap from the expensive things—or rather, since nothing in this field will be cheap, we must be content with separating the moderately expensive from the frightfully expensive.

First, I suppose everyone realizes that the earth's gravitational field does not stop at the top of the atmosphere 100 or so miles up. Rather, it extends for hundreds of thousands, even millions of miles into space, falling off in intensity inversely as the square of the distance from the earth's center. Even if you get away from the earth's field you are still in the field of the sun—which extends out a very long way indeed. Now from these simple facts there follows at once a very important conclusion: there is no such thing possible as a *stationary* object in space. Everything in space is moving. An object stationary with respect to the earth, for example, would promptly fall into the earth—pulled by gravity. The only objects which can stay in space are moving objects—and specifically, objects moving in such a way that the gravitational force on them is, on the average, balanced by a centrifugal force. Under these conditions a permanent path or orbit may be established about the attracting center—and such an orbit is always an ellipse or, in special cases, a circle, which is one kind of an ellipse. Stationary "space platforms" are a Buck Rogers myth.

This means simply, when we talk about sending objects into space, that if they are to remain there for any time they must be projected in such a way as to get into a stable elliptical or circular orbit around the earth.

It is an additional easily established fact that there is a precise relation between the period of the orbit—that is, the time required to travel once around it—and its average height above the earth, or more precisely its average distance from the center of the earth. Thus, for an orbit only 200 miles above the earth the period is always about 92 minutes; for an orbit averaging 1,000 miles above the surface, the period is 118 minutes. At about 20,000 miles the period is 24 hours and of course at the distance of the



moon, 240,000 miles, the period is the moon's period, 28 days.

The farther you are away from the earth, the slower is the speed required for a stable orbit, the longer it takes to traverse it.

If, for example, you wish to establish an object in a very elliptical orbit which goes out as far as the moon and back, the period in that orbit (an ellipse whose major axis is about 240,000 miles) turns out to be very nearly 10 days—5 days out and 5 days back.

So much for some simple physics—to which we shall return.

It has now been established that modern rocket technology has advanced to the point where it is possible to project into stable orbits about the earth, objects of substantial weight—say, in the near future, up to 1,000 pounds or so. With a somewhat smaller payload, the orbit could be sufficiently elliptical to reach to the vicinity of the moon.

Now a scientist cannot help but be excited by this prospect. Every now and then new advances in technology give science a new tool for research. The earth satellite is a tool *par excellence*. It opens up wholly new areas of scientific exploration—and America has a great opportunity to grasp these opportunities promptly and boldly.

Just what scentific explorations are most promising?

To the layman who wants us to establish a colony on the moon next month, the experiments I have in mind may seem a bit less than bold. But, contrary to some of the more fabulous schemes now being discussed, the ones I propose have the virtue of being both feasible and useful.

First, from the vantage point of an earth satellite we can learn a great deal about our own earth. We can learn more about its exact shape and size and the distances between important points. We can learn more about its gravitational anomalies—important in many types of geophysical explorations. Of even more practical value, we can learn more about the weather. The great meteorological patterns of storms and air currents which are so difficult to see from the surface will become much more understandable when we have observations from above the atmosphere. The earth's magnetic field—its nature, variations and origin—constitutes a scientific puzzle which observations a few hundred or a few thousand miles out into space will certainly help solve. To what extent is the field connected with electric current in the ionosphere? What is the precise nature and extent of the ionosphere itself? How will radio waves behave when bounced off the top of the ionosphere? What happens as they pass through it? To what extent and in what way is the ionosphere affected by radiations from the sun—by solar flares and other eruptions, for example? Can these effects be related to radio propagation on the earth? to the weather? to high altitude jet stream winds?

A whole book could also be written about what the astronomers would like to do with a telescope which is above the atmosphere and which could see the heavens for the first time unaffected by the disturbances, the distortions, the absorption and the stray radiations of our blanket of air. The problems of stabilizing a telescope on a satellite in order to get good pictures are not easy. And the problems of transmitting

pictures of good quality back to earth, presumably through some type of radio-photo technique, are even more difficult. But these are problems which can be solved in time, and there is much to be done even with relatively crude techniques. Man has never been able to measure directly the ultraviolet light from the sun, for example—since it is all absorbed at very high levels in the atmosphere. Even crude pictures of the sun taken in ultraviolet light would be of great interest, and would help us understand some of the complex processes going on in sunspots and solar flares.

And then there are the cosmic ray physicists—whose experiments are among the first to be performed in a US satellite, Explorer I. The effects which primary cosmic rays produce in our atmosphere are so complex that these secondary phenomena covered up for 20 years the true nature of the primary cosmic rays themselves. To observe these primaries for the first time on a continuous basis, completely unencumbered by the multiplicity of secondary phenomena which occur when they strike the air, will advance enormously our knowledge of their nature and origin—and this may help us unravel some of the deep puzzles about the origin and evolution of the universe, of our galaxy and our solar system.

I could go on to many other subjects—but I think you will see from these illustrations that whole new areas of science are opened up by the possibility of getting even a little way out into space—up above the earth's atmosphere in particular.

I have said that experiments and observations such as these and many more are technically feasible. Many of them are feasible right now with satellites weighing only from 50 pounds to a few hundred pounds. But there are a number of technical difficulties which will be with us for a long time. One, of course, is the unreliability of the rockets which launch these objects. These rockets are bound to be big and expensive devices—and it is important that we do not lose half of our experiments through technical failures of the rockets themselves. It will be some time before even a 50 per cent overall reliability can be achieved, I am told. And 90 per cent is still in the future.

Dr. Du Bridge received his PhD from the University of Wisconsin in 1926. Since then he has been awarded 16 Honorary Doctor's Degrees during a career of distinguished service, both in the field of education and government service. During WWII he served as Director, Radiation Laboratory, MIT, Office of Scientific Research and Development. In 1946 he was appointed President, California Institute of Technology, a post he still holds. He is a member of several boards and committees, including the President's Science Advisory Committee.

An even more troublesome problem is that of the energy source to power the various satellite experiments and to transmit the intelligence by radio back to earth. Thanks to the development of extremely sensitive receiving techniques, we can use radio signals from a satellite transmitted with a power of only 1/100 of a watt—provided the distance from the earth does not exceed a few hundred miles. And even the 20-pound payload of Explorer I has enough batteries to power such a transmitter for 2 months or so. But the Explorer satellite itself will stay in orbit for many years—and it is exasperating to have all that valuable instrumentation which was gotten up there at such great expense remain up there completely useless all that time. And as we get objects farther out into space and get more complex equipment abroad we will need not only longer life, but also much more power. To detect a radio transmitter which is near the moon, for example, may require a power not of .01 watt but of 10 watts—1,000 times as much. We don't need to transmit all the time; we can develop more efficient batteries; we can put more batteries in the larger vehicles. But the fact remains that the limit to how much information we can obtain from scientific satellites will be set primarily by the strength of the energy source they can carry along. Solar batteries may help. But they cannot provide large amounts of power in moderate size units—and of course they cease to operate when the satellite enters the earth's shadow. And if the problem of energy sources looks pretty difficult for satellites requiring only a couple of watts for a few weeks, think of the colossal problems facing us when we try to plan more extensive and complex space expeditions. The great hero of the space age will be the man who invents an extremely compact device for storing quite large amounts of energy. None is now in sight.

So far I have said nothing about satellites which carry human beings. The reason is simple. For most scientific explorations in space the presence of a man involves quite unwarranted complications and expense not justified by what he can contribute to the success of the venture. True, a man makes a pretty good servo system—he could keep a telescope pointed at the right star, for instance. He could also supply a little bit of energy—by turning a crank connected with a dynamo to charge up a battery, possibly. But in return for this he demands a colossal price. He not only requires that we take along air and water and food and other things to keep him alive and comfortable, but he also requires fantastically expensive provisions to bring him back alive. Now no set of *instruments* demands such a ridiculously expensive luxury. Instruments are content to coast around in space unused and unattended for years and to come back to earth, if at all, in a fiery cataclysm. But not a man! He wants to get back to earth and he wants to get back not only unburnt but essentially unjarred.

Now I assure you this is not easy and we are a long way from having the faintest idea of how to do it in any practical way. For consider a satellite vehicle rotating in an orbit some 200 to 400 miles above the earth. Its speed will have to be in the neighborhood of 18,000 miles per hour, or 5 miles per second—about like Explorer I. Suppose this vehicle is large enough to carry a man, and the man now wants to re-

turn to earth. How does he do it? Obviously, jumping out of the vehicle with a parachute and an oxygen tank won't do it. There is no air to affect the parachute, so our man would become another satellite floating alive around the earth at 18,000 miles per hour—alive, that is, until his oxygen gave out. No—he'd better stay in his vehicle. He will then find he needs a sizable rocket motor and a good deal of unused fuel so he can reduce his speed and lower himself gently into the atmosphere—where then his parachute may be used. Now this is no mean trick and it will require a very large amount of rocket propellant—all of which will have had to be a part of the payload with which he was launched in the first place. And right away we see that the initial payload will have to be not a few hundred pounds, but many thousand pounds—and, of course, the size of our launching rocket has increased proportionately. Not even the Atlas can begin to handle that!

You see why I prefer to leave human beings at home for the next few years. Especially when they are of no use anyway for our scentific experiments.

But let us interrupt our discussion of the scentific uses of space satellites at this point and ask what other uses such vehicles have. We think at once of possible military uses and then of the use for space travel, or space adventure. Whether the human being is of any use for scientific observations or not, human beings are going to insist someday on taking journeys out into space. The spirit of human adventure cannot be suppressed, no matter what it costs. And, granted adequate resources and adequate time for technological development of the necessary equipment, men can certainly someday be projected into orbits around the earth, eventually into orbits which go far from the earth. There is nothing about space travel which man can't stand—except perhaps the expense. Provided he is housed in a suitable container supplied with oxygen, water, food, and suitable temperature controls, there is nothing in space that will hurt him. On long journeys he is more likely to die of boredom than anything else.

But when we talk about landing a man on the moon or Mars or some other planet and then getting him off again and back home safely, we are talking about a new order of magnitude of difficulty and cost. To land safely on the moon will take the same sort of rocket equipment that we have already described to lower him back to the earth. The gravity on the moon is smaller, so that will help—but also there is no atmosphere on the moon to support a parachute. Hence the entire vehicle will have to be lowered gently to the moon's surface using the rocket blast alone—like the landing of a vertical take-off jet plane. Then you will have to have enough fuel to take off again, get projected into an earth-bound orbit and still have enough fuel left over to lower him gently into the earth's atmosphere as before. During all this time the man has had no access to any supplies of oxygen, water, food and energy other than what he carried with him on take-off. And the entire round trip in the best orbits for the purpose would consume not less than 10 days. I will leave it to some rocket experts to calculate what payload would have to be lifted from the earth for such a journey—and how many millions of pounds of initial thrust it would take to do it. Nothing impossible about it you understand. It will just take a lot of money and a long time. Whether it is worth it or not depends on our concept of the values to be achieved.

What are these values?

Clearly a man landing on the moon and coming back could bring back valuable scientific information, such as samples of the moon's surface (if he didn't get roasted or frozen while on the moon's surface, which boils water in the daytime and freezes carbon dioxide into dry ice at night). His visual and photographic observation would be of great scientific interest. I think, however, that most responsible scientists (not counting the space cadets) would feel that we could collect plenty of scientific data about the moon during the next few years by cheaper methods.

What then about the military value of space travel?

Here we come to the 64 billion-dollar question.

Let's start back at the beginning.

Obviously military ballistic missiles which will hit accurately any point on the earth from bases in the US with payloads of 1500 pounds or more are very important military weapons, and nothing should impede our efforts to develop and manufacture them and continue to try to make them cheaper, more reliable and more effective. That, in itself, is a big job which will take a lot of talent and money during the coming years. That is the challenging job which American industry and American technology must not lose sight of.

Obviously also the rocket techniques which will carry sizable warheads on trajectories of 5,000 miles, or so, on earth are also automatically adequate, with but moderate changes, to launch earth satellites of a few hundred pounds weight, more or less, into orbits around the earth —and even out to the moon or beyond.

What military value will such satellites themselves have?

First, they will make fine reconnaissance vehicles. With suitable optical and telemetering equipment they will provide interesting pictures of most of the earth's surface every few days, if the orbit is properly chosen. Let's hope we can load enough batteries aboard so we won't have to send up a new vehicle every two weeks or so because the old one's batteries have run down.

Second, our military satellite will be good for weather observations—and military people seem to be always interested in the weather. I would think that the advent of ballistic missiles would make weather information over enemy territory less necessary—but let's say we will have some military weather satellites too.

That, as far as I can see, is about the end of the story on the military value of earth satellites. Maybe some communication techniques can be worked out; maybe someone can figure out a way to use satellites for radar antennae. But as weapon delivery systems they are clearly not very interesting. You can't drop a bomb from a satellite; it just won't drop! And to project a bomb to earth is about as difficult as getting our human being back to earth. You may not have to treat the bomb quite so gently—but you do have to land it at exactly the right place. It's no good getting it on the wrong

side of the earth! And, besides, the ballistic missiles we already have, and which started all the excitement in the first place, are quite adequate weapon carriers—a lot more accurate, cheaper, more reliable, more flexible, more instantly available for use than any satellite could be.

Thus, the military value of developing very large rockets (of a million pounds thrust or more) solely for the purpose of launching very large satellites would appear to be very small in the immediately foreseeable future.

But to return to our 64 billion-dollar question. What about a military base on the moon?

There have been some extraordinary statements made on this question in recent months. Here is a typical one from one newspaper (The Pasadena Star-News supplement "Parade"): "A base on the moon with elaborate equipment and highly trained men (what are the men breathing, I wonder?) would be an observation post surpassing anything military strategists have dreamed of in history." (I am not familiar with military strategists' dreams—but I do know that from the moon only one side of the earth faces you at a time, and for a good fraction of each month that face will be in total darkness—and much of it will probably be covered by clouds anyway. And anyone who thinks he can see any man-made object from 240,000 miles away is a bit optimistic.) But the quote goes on: "It (the base on the moon) could launch weapons of great destruction (the very same weapons we've got right here on earth now, I bet you) with terrible accuracy (terrible is right) on any target on earth. It could also be done without the slightest fear of retaliation. (Retaliation against what? Nobody on the moon could stop the enemy from wiping out New York, Washington and Los Angeles.) For us, reaching the moon first is a defense necessity."

That's what the man said. Of course he was only a Washington correspondent. But some military generals who ought to know better have said almost the same thing. It is my firm opinion that this is utter nonsense. It is nonsense for many reasons. I will mention only three:

1) Why transport a hydrogen warhead, together with all men and equipment for establishing and maintaining a base, 240,000 miles to the moon, just to shoot it 240,000 miles back to earth when the target is only 5,000 miles away in the first place. I can think of no gain that is worth the colossal cost.

2) If you did launch a bomb from the moon to a target on the earth, using, of course, an orbit that required the minimum amount of fuel, the warhead would take 5 days to reach the earth. The war might be over by then! An ICBM can reach any target on earth in 20 minutes.

3) As to retaliation, if we have rockets good enough to land men and equipment on the moon, the enemy will surely have ones good enough to put a hydrogen bomb (a much smaller payload) at the same spot. Either people will land on the moon for peaceful purposes by mutual agreement—or else we will surely launch the nuclear war here on earth which we are all trying to avoid. I'll willingly fight a war to keep the communists off our shores—but I am not interested in getting blown up to decide who shall have a military base on the moon.

There, as I see it, is the challenge of the space age. Can we use the great new technologies of space travel for peaceful and scientific purposes—conducting a bold and exciting program of research and exploration—or are we going to be led into wild programs of Buck Rogers stunts and insane pseudo-military expeditions? The decision is going to be made soon—and it is high time that the best people in America—including the best people in industry—do some good hard thinking about it.

USMC

★ ★ ★ ★

Always a Reminder

THE FAMED COL "RED MIKE" EDSON conducted an inspection some years ago.

As Edson came up the line, a young Pfc, armed with the .45, sharply came to raised pistol.

Edson inspected the weapon closely and with a meticulousness that obviously upset the Marine.

"Insert magazine" came the command, and the youth placed the loaded magazine into the pistol, completely forgetting the other commands in his panic, and instead, squeezed the trigger.

The weapon went off with a loud roar and the terrified youth kept firing skyward until the magazine was empty.

Edson, who had been standing a few paces away, looked at the Pfc sharply, while the entire company stood by waiting for what was probably to be the soundest tongue lashing in history.

Instead Edson quipped, "You there, don't forget to police up the brass," and moved on to inspect another man.

Lt C. R. Venditto

"The Reasons Why"

ONE DAY while serving with the Test Unit #1 at Camp Pendleton I was escorting a group of visiting dignitaries around the maneuver area in a helicopter. It was a cold, rainy, miserable day, and as we passed over the heads of the Marines on the ground we could see them huddled over their cooking fires. We landed nearby and proceeded toward one of the fires for some information and orientation. On the edge of the group stood a lanky Pfc — arms extended, hands twirling, in an obvious imitation of a helicopter, exclaiming to the others in a definite Texas drawl:

"Man, they come right over my head — chug-chug-chug — blow out my fire, blow sand in my beans, and I have yet to find my air-mattress, and then they wants to know just why I ain't going to re-enlist!"

Capt J. W. Hanker

Division Reunions

4th

Gen Cates, Gen Hart at 4th's Memorial Services

The 4th Marine Division Association met in Philadelphia this year at the Sheraton Hotel for its 11th annual reunion.

Headed by retired Marine Corps Commandant Gen Clifton B. Cates, 500 members of the Association, including eight general officers and one rear admiral met to elect new officers, discuss business and meet with old friends.

At the 3-day meeting members heard Bob Sherrod, the present managing editor of *Saturday Evening Post* and former WWII correspondent for *Time* speak at a buffet lunch on the second day of the meeting, and heard BGen Carlton A. Fisher, USMCR, make the key address at the banquet Saturday night, 28 June.

Other activities included unit reunions in the regimental CPs and a parade headed by the 2d Mar Div Band from Camp Lejeune.

Main business transacted was the election of officers for the coming year, the selection of a city for next year's meeting and the establishment of a 4th Marine Division Scholarship fund.

At the 1957 reunion it was decided to set up the scholarship fund. Trustees for the fund were to be Gen C. B. Cates, MajGen M. B. Krulewitch and Monsigneur L. Whelan and all the money in the treasury in excess of $800 was to be deposited to the fund. This year some $4,000 additional was deposited and the trustees are now working on a plan to administer these funds.

Officers elected were as follows: President, MajGen Louis Jones, USMC (Ret); 1st Vice President, Maj. Gerald Pines, USMC; 2d Vice President, Mr. Ralph Most; Treasurer, LtCol Thomas H. Rogers, Jr., USMC; Secretary, Mr. David Altman; Executive Secretary, Capt Peter Benavage, USMC; Judge Advocate, LtCol J. T. Kisgen, USMC; Chaplain, Rev. E. G. Hotaling; Sgt-at-Arms, Mr. Sidney Jaslow.

It was also decided at the meeting to hold next year's reunion in Boston. Dates and place will be announced at a later date.

5th

The 5th Marine Division Association elected Joseph Raspilair, Jr. as its new president at the 9th annual reunion of the Division held on June 27, 28, 29 at the Hotel Roosevelt in New York City.

Two hundred and fifty members of the Association, plus their wives and friends attended the meeting. Guests of honor at the reunion included LtGen Keller E. Rockey, USMC (Ret), the former Commanding General of the 5th Division; Cdr Paul F. Kelley, USN (ChC), famed "Suribachi Priest" of the 28th Marines; and MajGen Donald Weller, USMC, Assistant Chief of Staff, G-1, who represented the Commandant of the Marine Corps.

At the business meeting, New Orleans was selected as the site of next year's meeting after a lively debate. The dates will be announced later. Only a president was elected at the meeting. Other officers for the Association will be appointed by the president later in the year.

A report was also given on the 5th Marine Division Scholarship fund which was established in 1951. The Fund was originally set up to provide scholarships for the children of members of the Division who lost their lives while serving with the 5th. Since that time, Public Law 634 set up a program providing educational grants for war orphans so the 5th modified their program to benefit children of Marines who were incapacitated while serving with the division.

Gen Rockey speaks at the 5th's banquet

Dateline Darling

PHONE-LINE Romeos or stag-line Lotharios, she's the object of their affection. And there's every reason—for her good sense tells her to watch her diet—to eat lighter, less-filling foods and her figure shows it.

Pepsi-Cola can share honors in this field. Reason? Pepsi is the *light* refreshment. Never heavy, never too sweet, it refreshes without filling. Have a Pepsi.

Pepsi-Cola

refreshes without filling

If the bearer of a hand gun is in a position where he

must fire 6 or 7 rounds, he is in a precarious position.

No amount of extra rounds in magazines will help him.

SHOULD OUR

SIDEARM BE A REVOLVER?

By Capt Charles B. Haslam

FROM THE PERIOD 1876 TO THE Spanish American War this nation employed the Colt Single Action Revolver which was .45 caliber and made in various barrel lengths. In the year 1892 this country adopted a variety of Colt and Smith and Wesson Revolvers which were .38 caliber. However, during the Philippine Campaign it was discovered that the .38 caliber revolvers fired a cartridge with insufficient shocking power. As a result this nation again reverted to a .45 caliber revolver known as the Colt Service Revolver, Model 1909. This weapon fired a flat nosed lead bullet weighing 255 grains which contained the necessary stopping power to halt the fanatical charges of the Moros. In 1911 this country adopted the .45 caliber automatic pistol with which we are all familiar—it has been with us ever since.

Now the trend in ordnance, as everywhere else, is for light weight. Considerable thought has been given to replacing the present service pistol with a lighter hand gun. As early as 1946 this country was studying the possibilities of moving to lighter hand guns which would fire a projectile smaller than the .45 caliber bullet.

In 1952 the Tripartite Conference, comprised of representatives of the United Kingdom, Canada and the United States, recommended that all 3 nations move to the 9mm Parabellum cartridge. In the same breath they also recommended that the 3 nations seek a cheap light-weight hand gun to fire this cartridge. The hand gun mentioned at the conference was not restricted to a pistol; the door was left sufficiently ajar to consider a revolver, providing it met certain characteristics.

No doubt the present service pistol will be replaced as times goes by. Will any new hand gun adopted be a revolver?

No one can refute the fact that the automatic pistol is easier to repair and has a greater rate of fire than a revolver which, in the larger calibers, is restricted to a cylinder containing 6 chambers. However, the pistol has many serious disadvantages which outweigh its advantages. For example, a misfire will necessitate the bearer of a pistol doing one of two things; namely, cock the hammer and attempt to fire again, hoping this time the primer will fire. Or he must pull the slide to the rear thereby ejecting the deficient round and allow a new one to seat itself in the chamber. In combat both actions could prove fatal; in the former instance the primer might misfire again and, in the case of the latter, the time lag between the manipulation of the slide and the subsequent firing of the new round might prove fatal. However, if the shooter above had been armed with a revolver and had occasioned a misfire, all he would have had to do would be to pull the trigger, since a new round would have lined up with the barrel.

The automatic pistol is more susceptible to the elements than a revolver. For example, sand will have a detrimental effect on all small arms but it is extremely noticeable when it saturates an automatic pistol. The sand lodges in between the slide and the receiver thereby causing the slide to hang up after the first round is fired. Sand in a revolver will not affect the functioning of the weapon too much, since there are no recoiling parts.

In addition, an automatic pistol must have excellent ammunition in order to function properly. Old ammunition will give lower velocities which can result in malfunctions; whereas, a revolver can fire deteriorated ammunition without any adverse effect on functioning since there are no recoiling parts.

A pistol magazine is susceptible to the elements. Also the magazine spring must be allowed to expand periodically because it will lose its tension if the ammunition retains it in its compressed position for long periods of time. A revolver does not use a magazine.

In comparison to a revolver the pistol has a poor trigger pull. This is especially true when one compares the average revolver as it comes off the production line with a

Capt Haslam enlisted in the Marine Corps in 1937 and received a field commission in 1948. He has served as: CO, 5th Ordnance Co., 5th MarDiv; Instructor, Ordnance School, MCS, Quantico; OinC, Ordnance Repair Depot, MCSD, Camp Lejeune; Test Officer for Infantry Weapons and Ammunition, MCEB, MCS, Quantico. At present he is ExO, Ordnance Co., 3d Svc Regt, 3d MarDiv.

pistol. The mechanism of the revolver makes it possible to give an excellent trigger to everybody without necessitating an armorer spending time and equipment to smooth out the trigger as he presently must do.

All the hand guns we presently utilize are sufficiently accurate to fulfill their missions as close-in type weapons. But compare the amount of work and expense that good shooters and armorers go through to "accurize" the present service pistol. They must build up the barrel, its bushing, and rework the trigger; to mention only a few. On the other hand, the revolver has a stationary barrel and its mechanism is made so that it requires little work and money to place it in a suitable condition for match shooting.

A pistol, notwithstanding all its safety devices, is much more dangerous to handle than a revolver because, when it is fired, it remains cocked and loaded. Just think of the number of lives that have been taken with the service pistol. I do not refer to enemy lives either. A pistol is particularly dangerous in the hands of inexperienced personnel. We are all familiar with the practice of inspection pistol and yet one must think twice not to insert a loaded magazine into the receiver until the slide has been let forward. I am referring, of course, to those instances when the hand gun is being utilized for purposes other than immediate use. Failure to properly handle the pistol has resulted in many lives being lost. I might add that no amount of safeties on a hand gun will make that weapon any more safe for the user. A revolver has only one safety; this is a mechanical built in type, but, with that one safety, it is a great deal safer than a pistol. A look at the record of accidental discharges will bear this out.

From a comparison of the above features it appears that the pistol does not fare too well. However, it must have some merit in order to retain its position as the number one hand gun in the Armed Forces. Apparently its only merit is that the service pistol contains a magazine which holds 7 rounds of ammunition, and provision is also made for its bearer to carry an additional 14 rounds in his magazine pouch. But, to me, that is a fallacy inasmuch as a hand gun serves one purpose only; it is a close-in protection type weapon. As such it must be a "last ditch" type weapon and, in the event its bearer finds himself in such a position he must realize that there are only 7 rounds between himself and eternity. I say this because if he has to expend more than 7 rounds to preserve himself from his adversaries he will not have time to change magazines on the field of battle. It is a rare instant, indeed, when a person finds himself in circumstances where he must fire all 7 rounds, let alone his load of 21 rounds.

Just how much weight can be saved when comparing the new lightweight pistols on the market today with the present service pistol? No doubt about it, considerable. Any of the new 9mm automatic pistols weigh in the vicinity of 27 ounces without loaded magazine. This is certainly a saving when compared to the service pistol which, empty, weighs 39 ounces. Notwithstanding the fact that these pistols fire the 9mm Parabellum cartridge don't they, as pistols, retain the undesirable features previously discussed? They do.

Well, why not develop a revolver to handle the 9mm Parabellum round? That is easier said than done. The reason why it is so difficult is that certain characteristics are already stated elsewhere for any new hand gun. For example, any new hand gun shall not weigh more than 28 ounces and shall be capable of containing 8 rounds of ammunition. It is only too obvious what must be accomplished to make a revolver suitable. First of all a cylinder would have to be developed that could handle 8 rounds of the 9mm ammunition. On the surface this does not look too difficult but consider the size of such a cylinder upon completion? Again, one must consider that the 9mm Parabellum round builds up a pressure of 39,000 pounds per square inch as compared with 18,000 p. s. i. for the standard .38 caliber cartridge. Suitable lightweight metals would have to be developed to handle these 9mm rounds without making the weapon too bulky, yet capable of withstanding the safety limits. There is no revolver in existence that fires the 9mm Parabellum round and it will be some time before one can be developed to meet all the present requirements.

Then why move to the 9mm round? Briefly, the Military is concerned over the progress being made in respect to new body armor which presently turn the .45 caliber bullet. We want something to penetrate this new armor and the .45 caliber bullet is too low powered to give the required penetration. On the other hand, some of the 9mm Parabellum ammunition have velocities reaching 1500 feet per second and therefore have the necessary penetration characteristics.

"Parabellum" means "for war" and when used with cartridge, for example, "Parabellum" cartridge, it means that it is a cartridge of greater power than the commercial type round.

Does the ammunition have to be 9mm Parabellum? Don't we have ammunition on this side of the ocean comparable to the aforementioned round? First of all the ammunition must be 9mm because the Tripartite Conference stated that it would. In answer to the second question, we do have high velocity rounds in the .38 caliber class. To mention one; there is the .38 caliber Special Super-X which fires a 150 grain bullet to a velocity of 1200 feet per second. Penetration capabilities of this round, as well as its shock power, is excellent. But apparently the stigma of the inability of the .38 caliber bullet to stop the Moros during the Philippine Campaign is still

with us and we frown upon the use of a .38 caliber bullet; although the 9mm round is called .38 caliber. However, a more logical reason for using the 9mm Parabellum round is that this type ammunition is international in scope. The majority of the foreign powers utilize this 9mm Parabellum round. This country is one of the few powers that does not.

Shock power was just mentioned in respect to the high velocity .38 caliber round. Shock power is important but penetration is now equally important in light of the amazing developments in new body armor. After all, the projectile must first penetrate the protective type covering before shock action will have any injurious effect. We have been standing by the .45 caliber bullet because of its great shock power. However, present day authorities on the subject of ballistics now state that the old assumption of large mass of a projectile moving at low velocities does not contribute to "great" shock power. Recent tests have proven that small caliber bullets, between .25 and .27 caliber, traveling at high velocities of 3400 feet per second have greater shock power than do .30 caliber rifle bullets moving at 2800 feet per second. Importance is now being stressed on the striking energy of the bullet and how fast this striking energy is imparted to a body. Of course, velocity is not everything. One must also consider bullet shape, bullet stability, and others. Also the substance being struck by the bullet may effect the flight of the projectile and contribute to shock power. For example, a bullet traveling through the air rotates about its axis and any time it strikes a foreign body, let us say body armor, the end result in numerous instances is for the bullet to detour from its normal path of stability and tumble. This tumbling will rip the striking body and cause tremendous shock power. Another effect is where a high velocity bullet strikes bone structure of the body. This results in considerable shock. Also the bullet may become upset as a result of striking bone; thereby creating additional shock power.

Shock power is important but the entire matter can be settled with one question. Assuming you, the reader, are wearing an armored vest. Having a choice, would you rather be shot by a bullet with great shock power which would, in turn, bounce off your vest or by a bullet with less shock power but capable of penetrating the vest?

Consideration should be given to the development of a lightweight revolver capable of holding 6 rounds of 9mm Parabellum ammunition; if need be, in order to meet the weight requirements, reduce the cylinder capacity to 5 rounds. If this were accomplished those who require a close-in protection type weapon could be armed with a short, compact, lightweight weapon of good accuracy. It would be safe, durable, reliable and effective. But, here again, the objection to such a weapon would be its inability to hold more than 5 or 6 rounds. It would also be condemned because it would have no provision for quick insertion of a magazine. As pointed out before, if the bearer of a hand gun is in a position where he must fire 5, 6 or 7 rounds he is, indeed, in a precarious position. The availability of 21 or even 100 rounds of ammunition in magazines could not assist him in any way, shape or form.

In summary, it is clear that a revolver would make a more suitable sidearm than a pistol. Of course a revolver has its disadvantages in its inability to be quickly reloaded and some people think that its grip is not on a par with an automatic pistol. This may be true but do we want a hand gun that is ideal for match shooting or a hand gun that is dependable in a pinch? The really big objection to the adoption of a revolver appears to be that it requires the services of experienced ordnance personnel in the event of needed repairs. For example, it is more difficult to replace worn parts on a revolver than on a pistol. Also the replacement of a barrel is a job for base maintenance. However, the hand gun is not used much, except for qualification and match shooting, so therefore the amount of maintenance required to replace any worn parts during combat would be negligible.

Let us explore the possibilities of adopting a revolver instead of a pistol. Discard our past and present ideas of desiring a hand gun that automatically feeds, extracts and ejects unless of course, such operations could be performed with no fear of malfunction. We should also discard the notion that 3 loaded pistol magazines are a great asset. After all one is not expected to build a base of fire with a hand gun.

USMC

★ ★ ★ ★

How's Your Follower Arm?

AT A RECENT ORIENTATION CONFERENCE held at MCS, Quantico, the Billeting Officer, a conscientious and efficient Captain was making doubly certain that details were being attended to with near perfection. A small table with the necessary paraphernalia was set up in the entrance to the COM as a post of operations for the Billet Guide and his assistants. All was in readiness when the Captain happened to glance at the sign set on the table. The grin which spread across the Captain's face spontaneously erupted on the faces of the others standing about as each read the words of the sign—"Orientation Conference Bullet Guide."

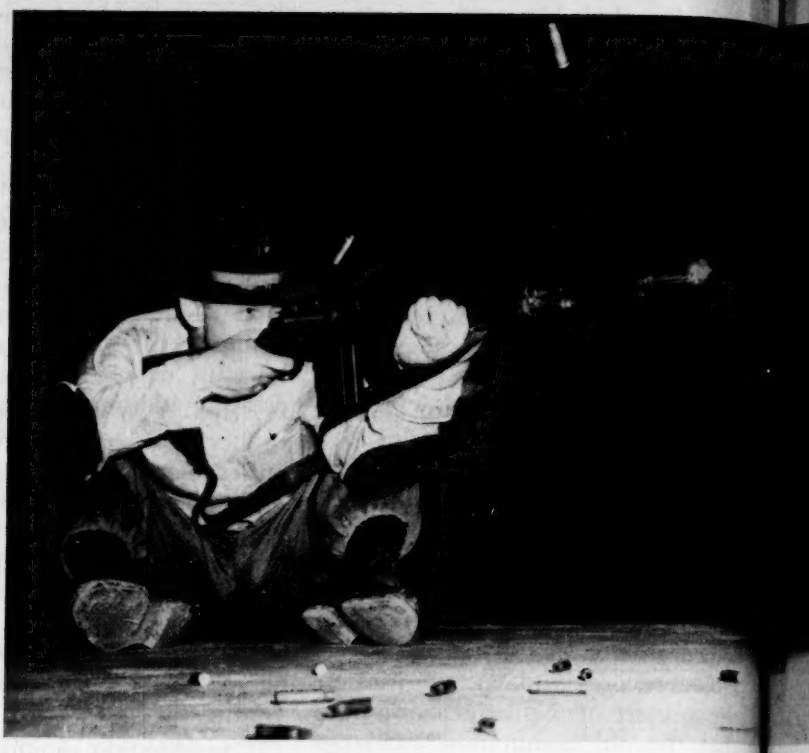
TSgt Edward W. Humphries

Unusual Reply

THE COMMANDING GENERAL was inspecting units of his command and, as was his practice when inspecting personnel, he often asked the question, "How's the food, son?" Answers ranged from "the eggs are too greasy" to "the meat's too tough."

Sensing the possibility of a morale problem here. he pursued the point until one lanky, young Marine replied, "Just fine, General!" "How is it," said the General, "that so far you're the only man to find no fault with the food?" "Guess the others ain't never been hungry, sir," was the even reply.

Lt Col C. E. Walker



marineste

MARINE RIFLEMEN ARE CURRENTLY testing the M-14 rifle, designed to fire the 7.62mm NATO cartridge.

Master shooters with the Corps' Marksmanship Training Unit at Camp Matthews are utilizing 5 of the new rifles to determine suitability of the present M-1 qualification course "A" for use in marksmanship training with the M-14.

The Marines are putting the new rifle through extensive tests at Quantico, and other posts and stations in the Corps. Tests include issuing rifles for troop tests wherein the rifleman will carry, fire, clean and handle the weapon just as he has been doing with the M-1.

Most Marines testing the M-14 have experienced no difficulty in firing from the established positions. Although the rifle has been fired over

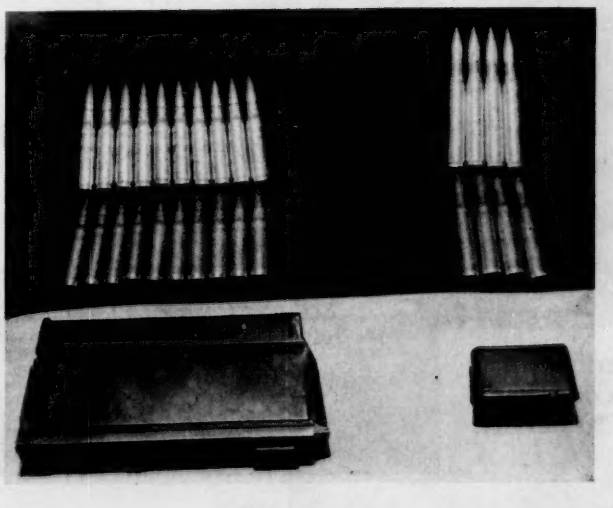
stest the M-14 RIFLE

the "A" course only a few times, most qualification scores have been slightly higher than average. There is, however, a slight drop in the off-hand scores with the new rifle.

Designed to replace the M-1 and the BAR, the M-14 has many advanced features not contained in the M-1. It is lighter, carries more ammunition, and is simpler to field-strip, while still retaining the best features of the M-1.

The NATO 7.62mm cartridge is shorter than the present M-1, .30 cal. ammunition, but packs about the same punch. The magazine holds 20 rounds as compared to the M-1's 8 per clip.

When the new rifle is equipped with a heavier barrel and tripod, it is called the M-15, weighs 13 pounds, and is designed to replace the present 20-pound BAR. USMC



A life membership in the Marine Corps Association was presented to Midshipman Ernest P. Hanavan, Jr., US Naval Academy Class of 1958, by

LtCol H. J. Woessner, USMC. The officer pictured beside LtCol Woessner is RAdm W. R. Smedberg, III, the Superintendent of the Naval Academy.

Honor graduate of the US Army Armor School's Armor Officers' advanced class No. 1 and the winner of the Armor Association Trophy is Marine Capt Robert W. Howland. A

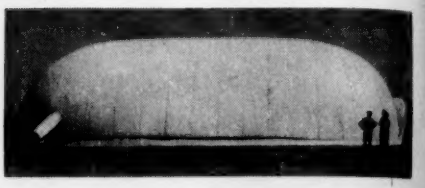
graduate of Miami University, Ohio, he finished first in a class of 126 and is now attached to the 3d Mar Div, Okinawa.

Contracts totalling about $15 million for the AN/TRC-27 (Army-Navy Transportable Radio, Communication), have been awarded to Raytheon Manufacturing Company by the Navy's Bureau of Ships.

The powerful radio communications relay sets, intended for Marine Corps use, can quickly communicate with units even though physically separated by enemy troops. The messages can be beamed from point-

to-point over an extremely narrow sky-path, lessening chance of enemy interception. The effective range is up to 40 miles.

Currently undergoing tests by the Marine Corps Equipment Board, MCS, Quantico, Va., is an inflatable air structure produced by CID Air Structures Company, Chicago, Ill. Made of a translucent, nylon-vinyl plastic material, the structure is supported by a high volume of low pressure air furnished by a continuously-



operating, electrically-driven blower.

The current tests are to determine if a requirements exists within the FMF for structures of this type, for such possible uses as advance base storage, aircraft shops and special weapons assembly.

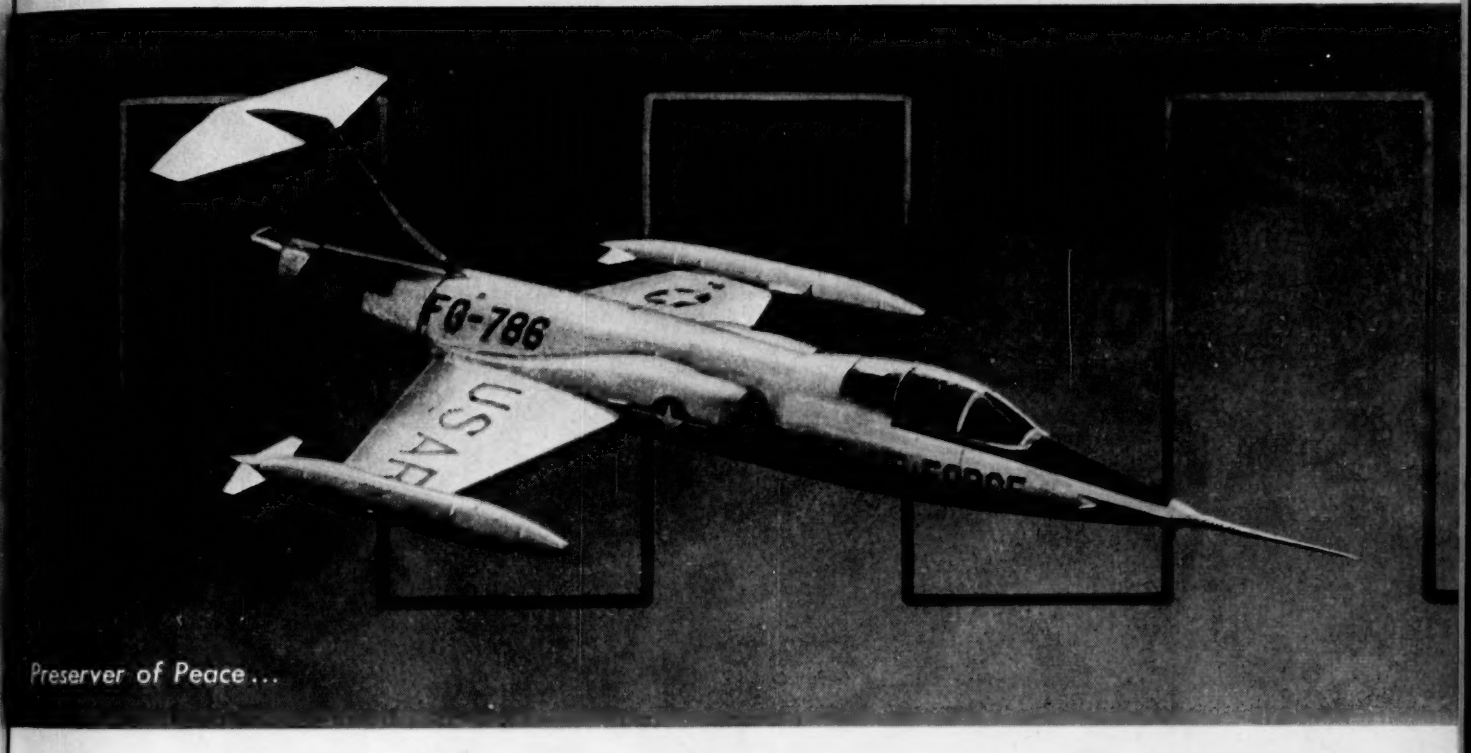
Armed with infrared guided Sidewinder missiles, this US Navy FJ-3 "Fury" jet is set to blast off from the carrier's starboard catapult.

The Sidewinder, 9-foot, 155-pound air-to-air missile, strikes its target by homing in on the infrared radiations (heat) which the target emits. Thus, the hot exhaust of an enemy jet becomes the target for this deadly weapon.

Philco Corporation, major producer of the heat-seeking missile, was recently awarded a $15 million contract for the continued production of the supersonic weapon.

surface-air
time-division

DATA LINK



Preserver of Peace...

Developed and produced by Radio Corporation of America for the U.S. Air Force, the Time-Division Data Link system employs digital transmission for the transfer of control information between ground environments and airborne systems. The use of digital techniques of high-speed computers brings the concept of automation to the field of communications and guidance of airborne weapons systems. Applications of the system are: *ground controlled intercept, missile guidance and control, return to base, en route air traffic control, automatic landing systems, tactical support.* This new RCA development is compatible with NATO Data Transmission Specifications, and is of important significance both to military and civilian flying.

RADIO CORPORATION of AMERICA

Tmk(s) ®

DEFENSE ELECTRONIC PRODUCTS

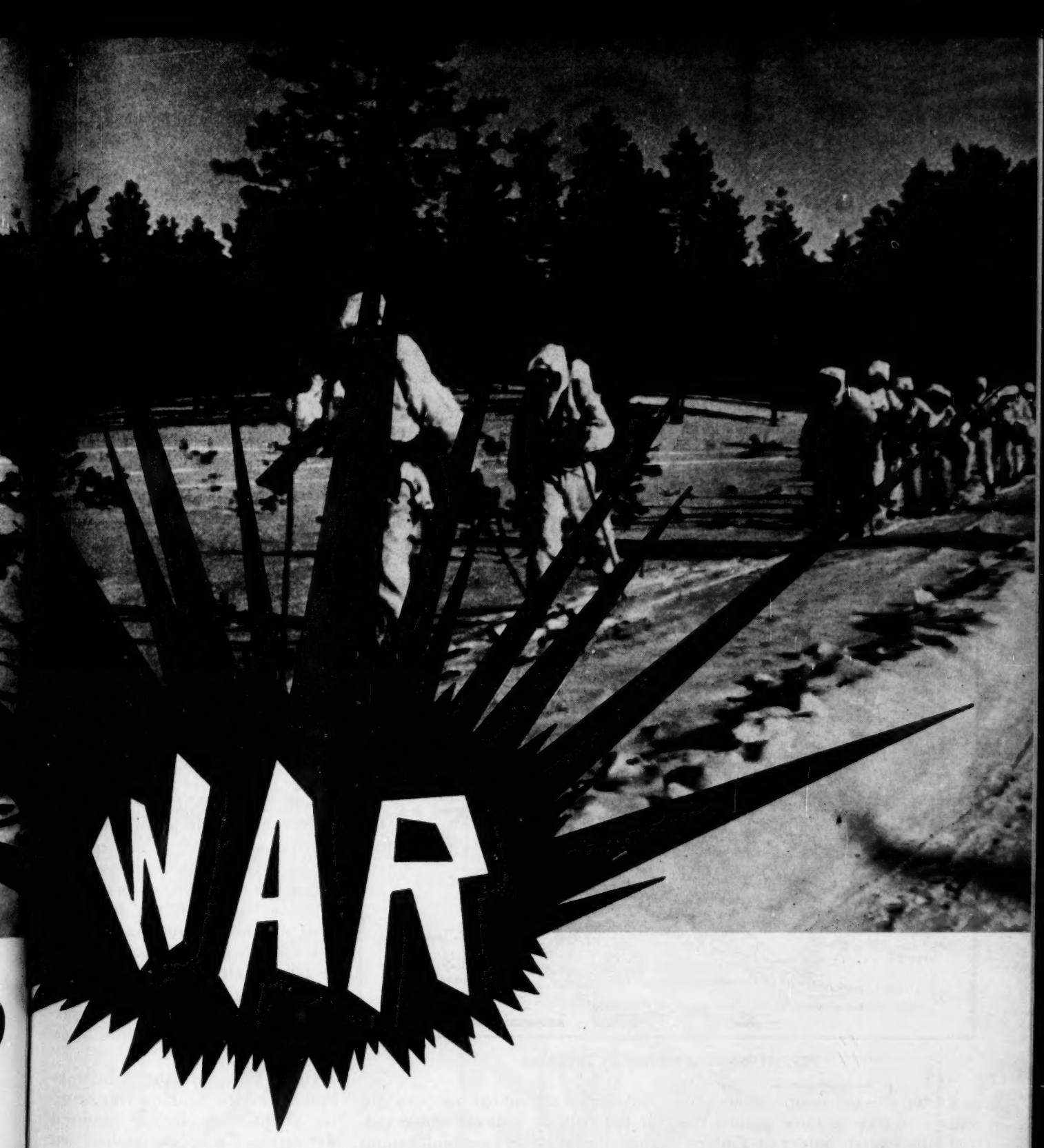
CAMDEN, N. J.

THE WINTER

On 26 November 1939, Russia charged that Finnish border artillery fired on the Russian frontier village of Mainila. Without waiting for a Finnish reply, Russia severed diplomatic relations and on 29 November sent an army into Petsamo at the northern tip of Finland. On 30 November she unleashed a general attack that included civilian bombings of Helsinki and other cities.

Russia threw her main attack against Finland's southern border located on the Karelian Isthmus 25 miles north of Leningrad. She planned to smash into Viipuri (Viborg), then advance west to Helsinki whose capture would end the war. Her force was the 7th Army: 14 divisions of infantry, several reinforcing heavy artillery regiments, an armored force of over 1,000 tanks and an air force of several hundred planes. Facing her were the II and III Finnish Corps, a total of 6 divisions plus one other division held as the Commander-in-Chief's reserve.

One of the most unique, brilliant and courageous defenses in history. In three and one half months of fighting, the Finns imposed a number of severe tactical defeats on the Russians



FINLAND VS RUSSIA

By Robert B. Asprey

Figures #4, 7, 9 reproduced from INVASION IN THE SNOW by John Langdon-Davies published by Houghton Mifflin Co. All others supplied by author.

Fig. #1 — Soviet Plan of Invasion

Russia effected simultaneous subsidiary attacks in force against the 700 mile eastern border of Finland. Along 60 miles of border just north of Lake Ladoga, the Soviet Eighth Army — 7 divisions supported by armor and artillery units — pushed several columns due west, her ultimate objective being a jointure with the 7th Army attacking north on the Isthmus. Opposing this attack was the Finnish IV Corps of 2 divisions.

Farther north the Soviet 9th Army — 5 reinforced divisions — moved west toward the northern end of the Gulf of Bothnia whose capture would sever communications between Finland and Sweden. Allied to this effort was the Soviet 14th Army at Petsamo whose 2 divisions were to proceed south down the Arctic Highway to jointure with the 9th Army. *Opposing the enemy from Repola to Petsamo were only independent border companies and battalions.*

Altogether 9 Finnish divisions plus scattered small units supported by one company of obsolete tanks, almost no airforce and only a few heavy artillery batteries (supplemented at the last moment by 100 antitank guns) faced 28 Soviet divisions supported by prosperous quantities of artillery, armor and air. A Finnish division numbered 14,200 men with one regiment of artillery. A Soviet division counted 17,500 men with 2 regiments of artillery, an antitank section, an armor battalion of from 40-50 tanks and an antiaircraft company. A Soviet division held 3 times the artillery strength of its Finnish counterpart. Opposing the 2,000,000 man peacetime army of Russia were 34,000 Finnish regular troops backed by 100,000 trained reserves and 170,000 conscripts. At the outbreak of war, Finland held enough small arms ammunition for 2 months of fighting, enough mortar and artillery shells for just over 20 days. The German Ambassador to Finland later wrote, "It was well known to me that he [Mannerheim — Finland's Commander-in-Chief] had told the Foreign Minister shortly before [the outbreak of war] that the Finnish army was not in a position to defend for longer than 3 days . . . at the most a week."

On the Karelian Isthmus the Russian pushed 3 army corps across the 60 mile border. Finnish terrain, from 5 to 12 miles deep, had been prepared for delaying action by covering troops, while organized positions farther inland were being occupied. Partial mobilization, earlier in the autumn, had filled the rear positions, a vital circumstance since initial Finnish confusion allowed the invader a relatively easy transit of the first area. In but a few days the Russian had contacted the "Mannerheim Line," the major line of defense.

On 6 December the Russian assaulted the left flank or Taipale sector of the Line. In the ensuing 5 day action, 2 Russian divisions were badly mauled without once seriously threatening the integrity of the defense. This action was possibly intended to suck reserves from the Finnish right flank, for on 17 December a major attack was launched here. In a 3 day action, the Soviet committed 6 divisions, 2 brigades of armor and numerous aircraft. His losses, including 59 tanks, proved enormous and again he accomplished nothing.

Believing that the enemy temporarily was unable to resume the offensive, the Finn now attempted to counter-attack in strength, an action admittedly a failure and one stopped 8 hours after it had begun.

December fighting on the Isthmus concluded with 2 more Soviet assaults, one at Taipale and one east of Taipale across the frozen lake of Suvanto. Both were thrown back. Meanwhile Soviet naval activities had been neutralized by coastal batteries on the Gulf of Finland.

The Soviet attacks against the eastern border fared somewhat better initially. Completely surprised, the Finn gave way to an almost critical point until 9 December when an audacious night raid at Tolvajärvi slowed the advancing column by pulling its tail. Three days later the hastily reinforced Finn attacked. The Battle of Tolvajärvi employed a particular Finnish tactic that will be discussed later and that won the Finn an important victory—over 5,000 Russian dead were counted and 1,000 prisoners were taken. Tons of materiel, including 70 tanks and 35 field guns, were captured. One Soviet division was annihilated, another shattered. The Finn suffered 30 per cent casualties.

Farther north an even more important action was building around the village of Suomussalmi (Fig. #2), the intermediate objective of a Soviet division advancing in 2 columns from Raate. Forfeiting the village, the slim Finnish defense withdrew until reinforcements arrived from the south. On 27 December the Finn counter-attacked. Five days of bitter fighting in 40° below zero temperature saw the Russian division smashed, its few survivors running north to be claimed victim by the Arctic. Here was an even larger victory than Tolvajärvi.

Nor were Russian efforts anywhere else successful on the Eastern Front. The Petsamo force advancing down the Arctic Highway was stopped and held 60 miles south. An enemy column advancing from Salla was engaged and pushed back to Salla where it was held. A major threat toward Kollaa was stopped by a few defenders and a heavy snowfall. And north of Lake Ladoga the Russian pushed as far as Kitela and could push no farther.

During the next 2 months the Russians fought a defensive war on the Eastern Front. His divisions were trapped. Unable to break out on his own strength, he could only wait for reinforcements whose arrival the Finn prevented. By the end of the war, one and a half of these trapped divisions had surrendered outright to the Finn while cold and hunger had killed hundreds and thousands of the remaining troops. The Russian disaster on the Eastern Front was great—it would have been complete had not

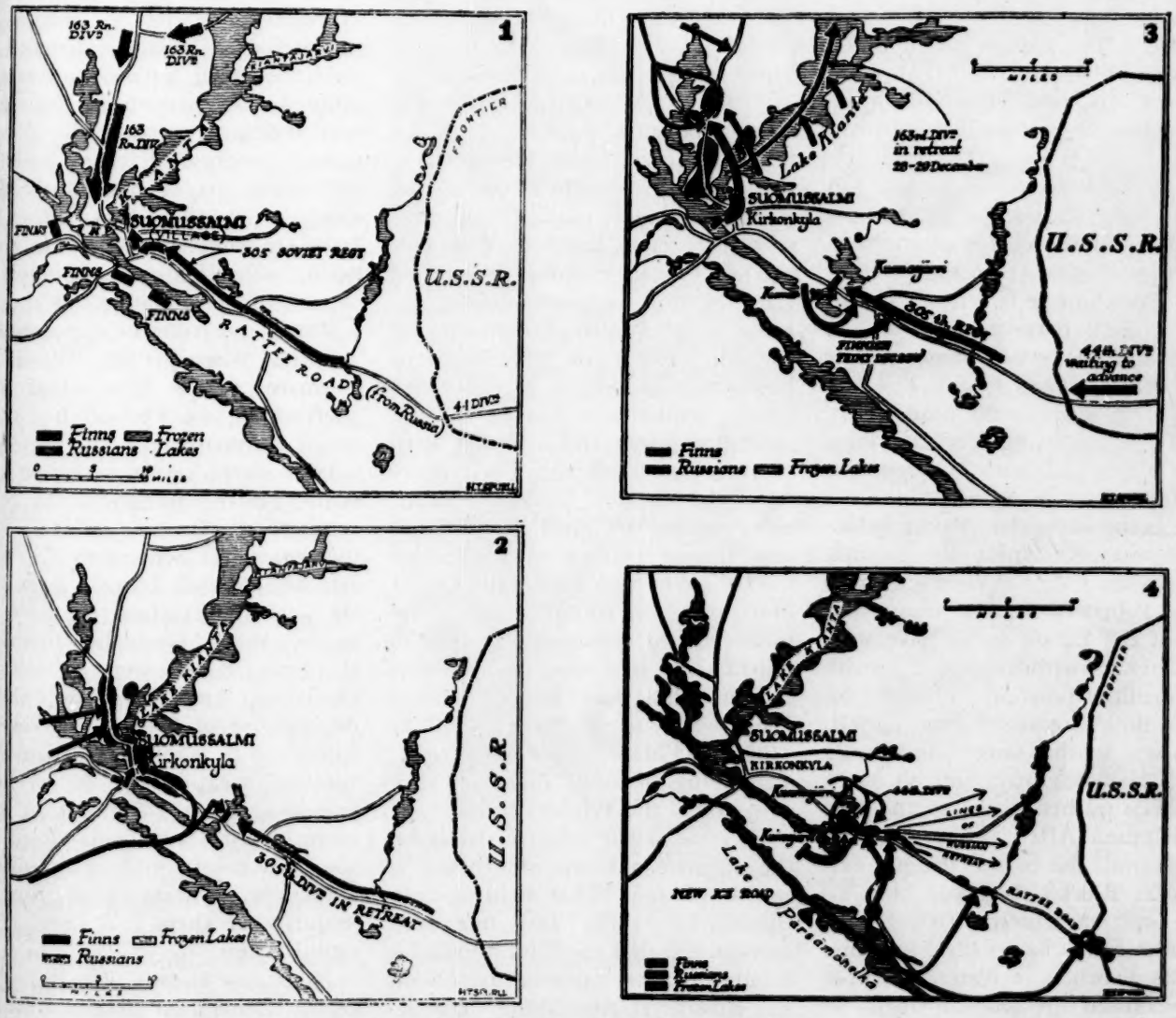


Fig. #2—The Battle of Suomussalmi

the Isthmus Front increasingly claimed every soldier available to the Finnish High Command.

Much to the surprise of the Finn, January failed to bring the expected Russian offensive on the Isthmus. For a month, a war of position was fought. Although Russian probing attacks were adroitly fended, Russian artillery, its accuracy now increased by observation balloons like those used at Gallipoli in 1915, took a heavy toll. Granite antitank barriers were pulverized, some concrete pillboxes smashed. Communications in particular suffered, the Soviet air force operating in such strength that frequently single Finnish soldiers showing themselves during daylight were strafed! The overall effect on the defender showed itself not so much in physical wounds as in mental fatigue.

On 1 February 1940, the Russian opened a major offensive that involved most of the Finnish right, while aiming primarily at the extreme right — the Summa sector (Fig. #3). The initial assault lasted 2 days and failed. On 6 February, however, an even more violent attack followed and was extended on 11 February to the entire front, including both extreme flanks. On this day the Russian broke through at Lähde in the center of the Finnish right flank. At once exploiting his penetration he laid down a massive artillery barrage, then pushed armor and infantry through to a one mile depth, or up against the last supporting units of the position.

On the following day the Finn counter-attacked with a regiment, the rest of his scant 2 division reserve being occupied in other critical sectors. Regaining the ground, he was soon forced to yield and early on 14 February the last supporting line of the Lähde sector gave way, the defender withdrawing to a weak intermediary position. The Summa sector, now threatened from its left, withdrew to this same line. By 21 February the entire Finnish right had been pushed to the second line of defense. After supporting the withdrawal, the coastal defense garrison at Björkö (Fig. #3) blew its guns and magazines, then marched 25 miles across ice to the Finn line. On 23 February a blizzard temporarily slowed the Russian offensive.

Equally savage fighting had meanwhile occupied the Taipale sector but here the Russian had gained no more than brief penetrations before being thrown back.

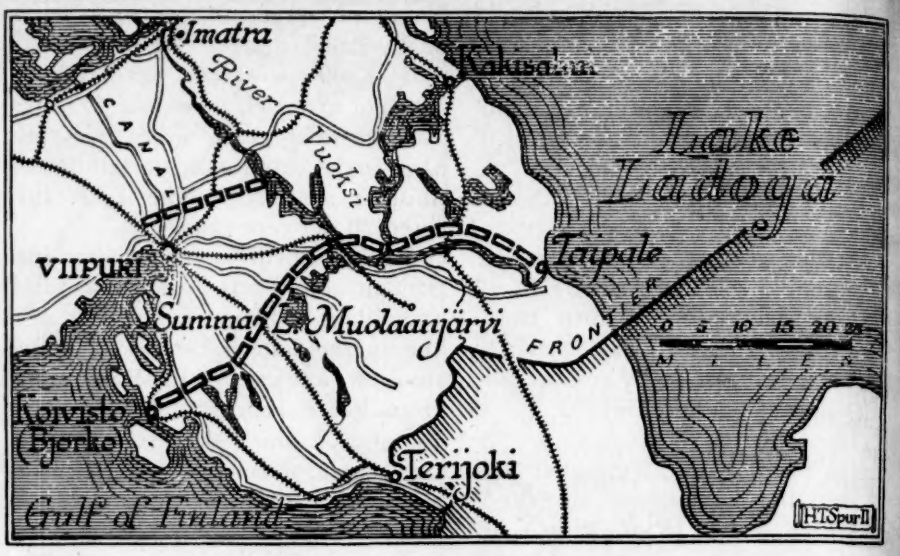


Fig. #3 — Isthmus Defenses

The Second Line held until 27 February when the Finnish right withdrew to the last line — Tali-Vuoksi — that ran east from the city of Viipuri. On 2 March the Russian contacted this defense. Choosing to hit the extreme Finnish right, he threw his main weight across the Gulf of Viipuri whose frozen water easily bore the weight of his armor. By 3 March the islands, including several batteries, had been run over.

The Finnish situation was now critical. But without pausing, the Russian relentlessly hammered the Finnish right from 4-7 March to break through finally at Vilaniemi which meant a severance of the coastal highway and a strong Russian force behind the Viipuri defense. In addition, simultaneous attacks across the Gulf of Finland, also frozen, threatened the entire coastal sector west to Kotka. On 12 March the Finn counter-attacked the most critical penetration at Vilaniemi. On that day, too, Russian assaults along the entire Isthmus Front were successfully repelled. At 1100 on 13 March the Peace Treaty, signed the previous night in Moscow, ended the Winter War.

In view of the relative strengths, the ultimate outcome of this war is not surprising. That fighting continued for three and one half months and that the Finn imposed a number of severe tactical defeats on the Russian is astonishing. The actual defense, as will be shown, stands as one of the most unique, brilliant and courageous in history—but its initial success was hinged on Russian error.

Russia preluded the Winter War with a cold war that began in April, 1938, when she approached Finland in connection with a "mutual assistance" treaty, really a demand for territory. Her apprehensions aroused, Finland spent the following year trying to repair both her neglected internal defenses and her diplomatic position. Succeeding somewhat in the former effort she failed in the latter, for she could neither consolidate a Scandinavia incapable of consolidation nor appease a Russia incapable of appeasement.

On 23 August 1939, Russia and Germany signed a non-aggression pact which lost Finland her traditional German friend and which, as a later secret clause revealed, consigned Finland along with the Baltic countries to Russia's sphere of influence. On 1 September Germany attacked Poland; 2 weeks later Russia joined the attack to share the spoils. While Germany turned to Rumania, Russia went to work in the Baltic. After slicing away the independence of Estonia, Latvia and Lithuania by a series of "mutual assistance" treaties, the Soviet sickle poised again over Finland. To the increasingly heavy demands of her southern neighbor, Finland offered 2 answers: a willingness to grant the majority of them . . . and troop mobilization.

As is now known, Russia had already decided on armed conquest and used the negotiation period

solely to cover her military preparations. Her decision was probably based on over-optimistic, if not fraudulent, intelligence reports from her agents in Finland, for Russia certainly believed that an invasion would topple the Finnish government, that the average Finn would embrace "liberation" and conversion to communism. At the time of the invasion, recorded Russian prognostications ended the war in a few days. Just after the invasion the Russian went so far as to establish the "real" government of Finland, a puppet structure that elicited nothing more than derisive response from Finland and soon drifted into oblivion.

This belief in Finland's political weakness embraced the military sphere as well. Either Russia held no idea of the terrain and its defender or she saw in them nothing to respect.

Yet nature alone had given Finland formidable defenses. In 1939, 70 per cent of her area, about 3 times the size of England, was forest, interspersed in the southern two-thirds by some 60,000 lakes connected by numerous rivers and artificial water-ways. When the Russian struck, snow already covered the land, water was freezing on the Isthmus and had frozen in the north. The subsequent months brought an average 30° below zero temperature to the Isthmus; on the Eastern Front the temperature at times plunged to 70° below zero.

On the Isthmus, the Finnish High Command had supplemented nature by tying forest, lake and river into a defensive complex with knots of isolated strongpoints. The entire string formed an arc suspended from one end by heavy coastal batteries at Koivisto, a fortified island just off the coast, from the other end by batteries on Lake Ladoga to the left of the Taipale sector. The major defensive line or "Mannerheim Line" began anywhere from 5 to 12 miles inside the border and ran the entire width of the Isthmus. Its primary strength was water, behind and on the flanks, of which strongpoints were prepared and protected by antitank barriers of granite blocks and 3 foot high tree stumps laced with barbed wire, sewn with mines and covered with snow (Fig. #4). Available artillery backed the most important strongpoints which were further fortified by automatic fire and mobile defense teams. The defense complexes lay in depth about 600 yards, with 12 units per mile of front. The weakest portion, the Summa sector, consisted of a 25 mile wooded stretch with water on either flank. Here a series of small but strong concrete forts had been installed in depth at 200 yard intervals.

The Mannerheim Line in no way resembled the Maginot or Siegfried defenses. It could compare vaguely with the Metaxas Line in Greece in that it supplemented rather than replaced natural defense. In places it was practically impenetrable, for example the Taipale sector that never did fall. In other places this was not true, for example the Summa sector was breached. That it was everywhere strong is obvious from the Russian effort required to blast through it.

Excepting the area immediately north of Lake Ladoga, the High Command did not anticipate attack across the eastern border. For here the rolling terrain of ice, snow, lake and forest—penetrated by a few narrow, icy roads and shrouded in Arctic temperature—taxed the mobility, if not the survival ability, of the most able woodsmen. In this area, other than a prepared complex stretching across the Arctic

Fig. #4 — Finnish AT Defenses

Fig. #5 — Finnish Recon Patrol

Highway 60 miles south of Petsamo, defense lay in the hands of small highly mobile units.

Mobility, in fact, was the *sine qua non* of Finnish defense and for several reasons the ski had long since been chosen as the vehicle to achieve it. First, the Finn knew its worth—he had used ski warfare as early as 1555 to beat the Russian at the battle of Joutselka; second, the average Finn being raised on skis, was converted easily to ski warfare tactics; third, the terrain, particularly in the north, was not conducive to air, armor or cavalry of which Finland possessed practically none anyway. As practiced by the Finn, ski warfare was a cross between adapted Cossack cavalry tactics and irregular warfare operations, and it was perhaps more than coincidence that Marshal Mannerheim, the Commander-in-Chief, was an ex-Czarist general and an admirer of T. E. Lawrence.

The 1939 ski trooper had been trained as a disciplined, but very individual, fighter who knew that his life depended on speed and marksmanship. He wore neither helmet nor overcoat, both being too heavy. He wore a cap of grey fur with earflaps and in action, no matter how cold, the flaps were raised because his hearing was often his eyesight. His field grey uniform, especially tailored for cold weather, was covered with a hooded white cape; leather pull-on boots were equipped with a special toe fitting that allowed him to kick off or replace his skis in seconds and that kept his toes warm; his hands were protected by special gloves slit for trigger use. He carried a rifle or sub-machine gun, bayonet, water bottle, light haversack and a Finnish knife—a deadly weapon called a *puuko*—for close-in work in which he had been rigorously trained.

In garrison he lived in simple tents or dug-outs "built under the pine trees and camouflaged with branches . . . the floor dug a few feet into the ground [and] absolutely invisible from the air [with] a red-hot wood stove and the chimney arranged cunningly so that the smoke curls up the trunk of the tree and is almost invisible from the ground. . . ." His standard hot ration was oatmeal and reindeer or beef stew supplemented whenever possible by a quart of milk a day. In the field he ate hard bread and cheese besides a special iron ration that included a large portion of sugar.

He operated in reconnaissance and combat patrols (Fig. #5). A patrol leader described the first as consisting of "3, 6 or 12 men, the same men working together all the time. We try to get a balanced patrol—one man, for instance, with an excellent sense of the country, one first-class shot, one man with outstanding hearing, or especially good stamina. For a short job the patrol usually goes out at dusk, travels all night, and gets back just before daybreak. In that time it will cover about 25 miles. Once I did that every night for 12 nights in succession . . . other reconnaissance patrols go out for longer stretches of 3 days, or even a week or 3 weeks."

A combat patrol varied from 10 men under a corporal to 250 under a colonel, the average about 20. At least one member carried a Suomi sub-machine gun that weighed 10 pounds and fired either a straight magazine of 30 rounds or a drum of 70 rounds. A light 7.62 mm. machine gun weighing 20 pounds was frequently carried by means of a *pulka*, a sort of forest canoe that slid over the snow.

These patrols alone carried out the initial delaying action in the north where, in the words of a young staff officer at Kuhmo, the front was "here—or half a mile ahead, or half a mile behind—anywhere where the patrols happen to be. We've got a couple of trees across the road just ahead, as a tank barrier, but I wouldn't even call that the front. All we have are our forest patrols, on the move all the time, and ahead of them the Russians. This is a war without fronts."

The Finn fought it well. While long Russian columns clanked up the narrow roads, small Finn patrols raced through the forests along their flanks. When a Finnish scout spotted a brigade headquarters or a field kitchen — 2 priority targets — automatic fire soon followed and a group of Russians fell. Or when the Finn spotted isolated or lagging armor, the patrol would race ahead of it and

put one of its members in a camouflaged foxhole by the side of the road. When the tank arrived the soldier would fling aside the snow-covered branches and throw a grenade. If the tank unbuttoned to fire on him the covering patrol took it under fire. In one instance, where a patrol lacked antitank grenades, 7 hand grenades were tied together and flung by a solitary skier across the track of an approaching tank.

Surprised and out-numbered, the Finn of course had no easy time of it. Col Villamo, commanding 1,000 troops who faced a Russian division, later described his people as fighting "every inch of the way, without a pause, for a fortnight. Many of them were so weary that they fell asleep on their skis. When they woke they went back to the fight. I had no reserves, no artillery, no antitank guns, only a small supply of antitank grenades which was rapidly exhausted. Against the tanks we had then to use ordinary grenades and machine-gun fire."

Fortunately for the defender, the Russian had already proven to be his own worst enemy. On the Eastern Front he originally held the 2 great military advantages of surprise and mass. But to achieve the latter he seriously erred, in that he split his total force while relying for an exterior MSR on the single-track Murmansk railroad. This meant that Lake Ladoga, separating his Isthmus and Eastern Fronts, might as well have been the Atlantic Ocean, and it meant also inadequate logistic support of his Eastern Front since the railway was already burdened by the Isthmus requirement. Having thus sacrificed to gain mass, he next threw a large part of it away by attacking along the entire 700 mile eastern border where the terrain between his attacking columns might as well have been the Sahara Desert. And by failing to protect the MSR of each column (a mistake Hitler, for instance, did *not* make on his mechanized charge into France), he opened to each column the possibility of its being cut from an already inadequate base logistic support.

He forfeited surprise by confining each column to a narrow, icy road which eliminated maneuverability. This spelled 2 results: each mechanical breakdown slowed or stopped the column; enemy resistance could slow or stop the column with only that portion of the column in the immediate area of resistance being able to fight back.

With surprise lost and mass lessened, the Russian now had to fight a war for which he was singularly unprepared. Arctic terrain and climate totally "discombobulated" him. His ration proved calorically inadequate, his uniform, often without gloves, hopeless. He practiced no camouflage and, just as important to the Finn, he was blind. His eyes were his aircraft and thus restricted by darkness and storm. His eyes should have been patrols, but he came with far too few ski detachments and the ones he had could not compete with the Finn.

The Russian column, generally of division or brigade strength, was originally filled with troops who were ill-trained, ill-equipped, ignorant peasants led by officers described by one correspondent as comparing "very unfavorably with [those] of any other nation I have ever seen." Although attacking bravely in "the steam-roller, mass style," his attack very often was not sustained. The Russian soldier himself proved a poor marksman who during an advance frequently fired wildly from the hip. Often he received little or no covering fire. Embracing mass tactics, he could not understand individual tactics. When taken under attack by a Finn patrol he halted his column, unwrapped his artillery, threw hand grenades and advanced cautiously with fixed bayonet. He found nothing but empty forest and ski tracks. Sometimes he sent out patrols to follow the tracks — these either lost the trail or did not return.

For about 2 weeks the Finn slowed but failed to stop the Russian. But then enough reinforcements reached the defender to allow him to counter-attack in strength. Before the Russian knew what happened he had been knocked down, and the haymaker that tagged him was the peculiar and powerful tactic of the *motti*.

Finnish woodsmen use a *motti* to hold cut logs: a sort of cradle formed by logs driven into the ground fore and aft. Its first military adaptation was seen at the battle of Tolvajärvi (Fig. #6) where the attacking Russian

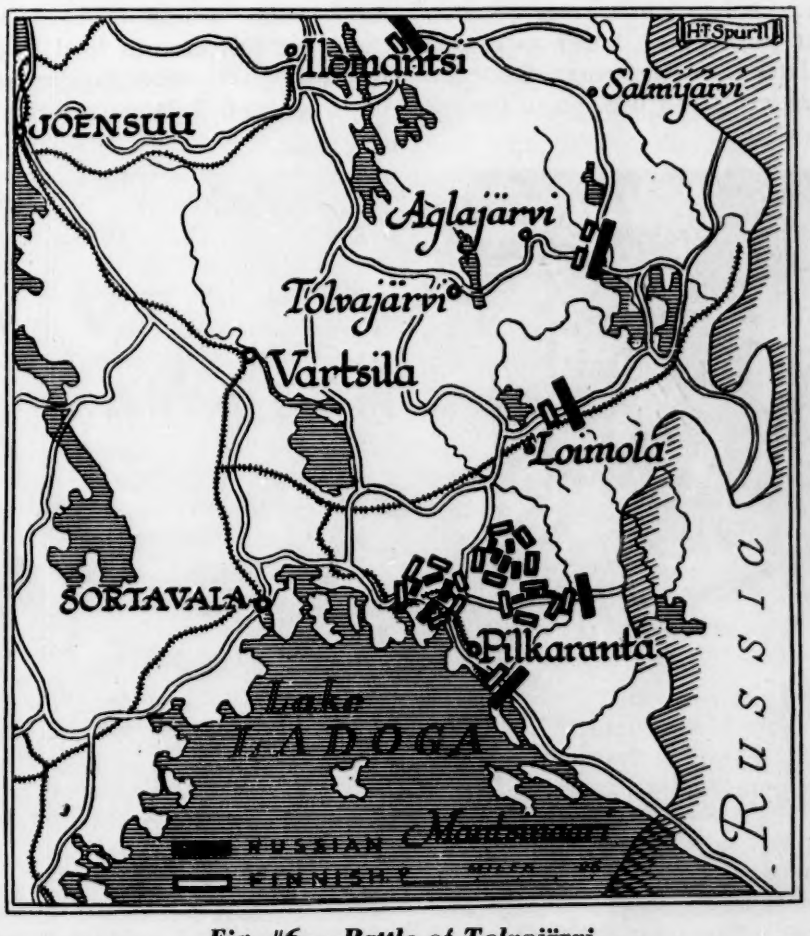


Fig. #6 — Battle of Tolvajärvi

column, a division, was halted by frontal counter-attack and then held. Ski patrols next cut his MSR with units following to seal the now isolated column from reinforcement. Swift flank attacks then cut the column in a number of places. After each severation or *motti* was sealed, further assault was undertaken against it. To expedite these operations the Finn built "winter roads." Several miles from the enemy and parallel to him trees were cut, the area flooded with water piped from under ice of a nearby lake. From this racetrack, paths were cut at intervals leading to each *motti*. Thus one patrol, with *pulka*-carried machine guns or light artillery, could harass the enemy like a bunch of wasps until closing to deliver the death sting.

During December, the Russian found no adequate defense against this racetrack, paths were cut at intergone, his retreat cut off. As his supplies diminished he killed horses and pulled his belt tighter. Even worse, he was cold but if he lighted a fire it was an invitation to death in the form of Finnish patrols exercising ceaseless and close vigil. As a result he very often froze to death. Not a Soviet commander on that front would have failed to respect the later words of General Guderian to Hitler: ". . . I beg you to remember that it is not the enemy who is causing us our bloody losses: we are suffering twice as many casualties from the cold . . ." An on-the-spot BBC correspondent wrote of Suomussalmi, the second great Finnish victory: "Never, I should think, has there been such a scene of frozen horror since the retreat of Napoleon's Grand Army from Moscow . . . there are hundreds and hundreds [of bodies] still there, frozen as hard as iron . . . and they are everywhere."

Used time and again, the *motti* tactic was primarily responsible for the Finnish victory on the Eastern Front. Early in January the Finn hit the 54th Russian Division heading toward Kuhmo and chopped it into 4 *mottis*. Simultaneously at Kitela a grandiose *motti* tactic split 2 divisions and 2 armor brigades by a push south to the Ladoga beach. After rushing detachments east to hold off 4 Soviet divisions advancing to relief from Sulmi, the Finn systematically severed the trapped forces into isolated *mottis*. Even when the Finn later did not or could not destroy a *motti*, cold and hunger often did. A regular Soviet officer captured at Suomussalmi reported that "when dawn broke on New Year's Day, there was just enough food to give the troops very short rations for 2 days . . . and 3 January there was no food for the men . . . by 6 January [we] were almost mad with cold and hunger."

During December the Russian on the Karelian Isthmus seemed no more able to cope with terrain and defender than his counterpart on the Eastern Front. Moving across the initial sector of "long, narrow and not yet frozen lakes and bogs, [with] narrow passages over which the attackers must advance, and where they could be maneuvered and attacked in the flank . . . he advanced in mass formations and avoided the forests, which had been mined in many places. The columns advanced under the cover of tanks, along roads which had been destroyed by our people and were often held up by overcrowding. They consequently provided excellent targets for infantry fire as well as artillery. . . ." The failure of the defender to exploit this situation adequately, does not erase the tactical error displayed.

The first Russian assaults established a pattern that for a month was to be fanatically followed: an average 30 minute artillery barrage in mid-afternoon followed, after delay of up to 30 minutes, by an assault of armor in the fore with infantry behind in wedge formation, its patrols seeking out land mines with long sticks. In the 6 December

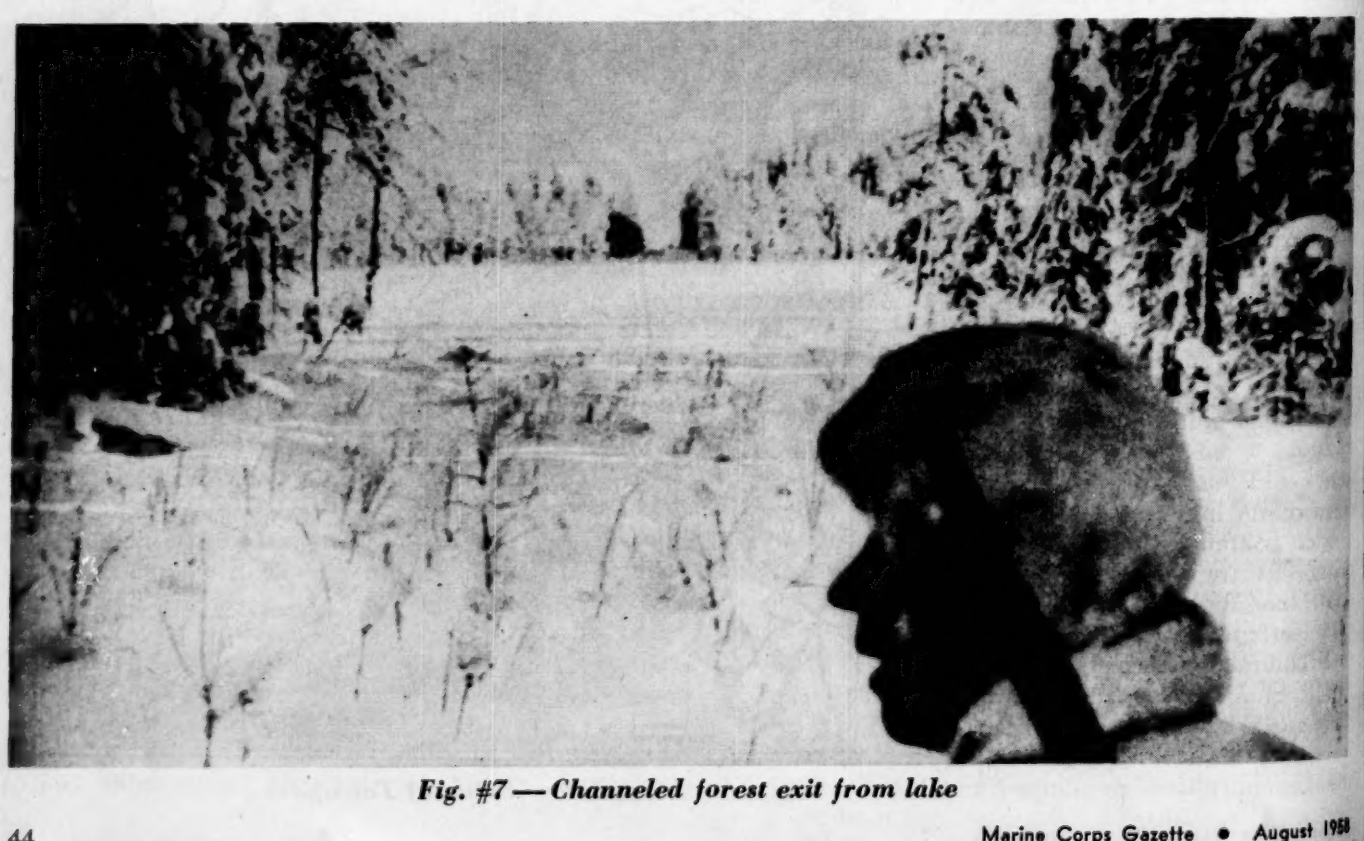


Fig. #7 — Channeled forest exit from lake

Taipale assault the Russian "generally attacked over the ice and open country [and] his losses were disproportionately high . . . ." In subsequent assaults he often threw his infantry over open ground against one of the networked strongpoints, while failing to lend either artillery or armor support. But just as often he flung out his armor, with infantry following, across frozen lakes into channeled, defended exits with no preparatory artillery fire (Fig. #7). As Mr. Garrett Underhill later observed, Soviet 'tankists' "have always been trained and indoctrinated like oldtime Mongol cavalry of Genghis Khan. In . . . Spain, Mongolia, Finland . . . they'd bore right in, take horrible losses."

Marshal Mannerheim later explained the Russian mass assault pattern by 2 human factors. One is the Soviet High Command whom he charged with an inertia of fear "that displayed itself in the formalism and simplicity of the operative plan, which excluded maneuvering and was obstinately pursued to victory or defeat. The Russians based their art on weight of material, and were clumsy, ruthless and extravagant. There was a striking absence of creative imagination where the fluctuations of the situation demanded quick decisions. The commanders were often unable to follow up initial successes. Because of this, our troops on the Karelian Isthmus, both in the war of movement and position, were able time after time to disengage and occupy new positions."

The other is the field soldier. The lower ranking Soviet officer, although very brave, "was little concerned about casualties." The infantryman "showed himself brave, tough and frugal, but lacking initiative . . . he was a mass fighter who was incapable of independent action when out of contact with his officers or comrades. Especially in the beginning, the Russians for this reason went in principally for mass attack, which often resulted in the attackers being mown down to the last man by a few well-placed automatic weapons. In spite of this, one attacking wave after another would follow, with a similar result. It happened in the initial fighting in December that the Russians would advance in close formation, singing, and even hand in hand, against the Finnish minefields, apparently indifferent to the explosions and the accurate fire of the defenders. The fatalistic submission which characterized the infantry was astonishing . . . ."

Fig. #8 — Small Finnish Patrol

Still another factor, that of inefficiency, must be mentioned. Writing in 1937, Capt Liddell Hart gave the Soviet army a high mark on its armor but noted that "their ideas on the use of such forces are not so well thought out; here they seem to have assimilated many ideas from abroad without digesting them . . . on their maneuvers the higher tactical handling of these forces is not equal to the actual handling of the machines by their crews. This reflection applies also to the handling of the ordinary infantry forces, and their formations are apt to offer too good a target . . ."

Although to a lesser degree than on the Eastern Front, the Russian here felt the sting of Finnish mobility. Where mine fields and tank traps failed to stop enemy armor, the Finn employed special antitank detachments mounted on skis and armed first with mines, later with the famed "Molotov Cocktail." Too, by "panic" retreats the Finn encouraged the Russian to attack, then decimated him by swift flanking counter-attacks. At times the Finn moved so rapidly that his antitank guns, 37 mm. Bofors, proved "too heavy and cumbersome for the changing situation of mobile warfare."

By the end of December, the repercussions of the abortive attack had already flooded the Kremlin. Russia's poor military show had increased Germany's insolence in the Balkans, and each day's prolongation of the war meant a transfer north of troops guarding the south. Anti-Communist sentiment of the outside world had jelled into action: material aid had begun to reach Finland and more was to follow. Particularly upsetting to Russia were the well-founded rumors that France and England planned to send an expeditionary force to Finland. At this point, in fact, Russia clearly saw disaster staring her in the face, for if the war were to last until April the spring thaw would halt military operations, give Finland a chance to consolidate her defense — the Allies opportunity to land.

Accordingly, Russia acted swiftly. Early in January she revised her High Command. Marshal Timoshenko was appointed Commander-in-Chief of the Karelian Isthmus whose 7th Army was now reinforced by the 13th Army. Marshal Stern took over the Eastern Front, and Marshal Voroshilov became overall

Fig. #9 — Camouflaged Finnish Soldiers Cover AT Defense

Commander-in-Chief.

During January, Marshal Timoshenko systematically rotated his Isthmus divisions behind the frontier where they received special, intense training. For the first time the troops were issued white capes, proper uniforms and equipped with the modern 1939 rifle. Each infantry section was given one automatic rifle in addition to its light machine gun. Armor was reorganized: from now on medium and heavy tanks would assault, with light tanks confied to scout work. Supply underwent drastic overhaul with vast forward fuel and ammunition dumps being built.

The new impetus displayed itself on the Eastern Front in the Kuhmo and Kitela sectors where the Russian had employed far superior divisions to those farther north. Although these divisions had been cut into *mottis,* the Russian now evolved a defense reminiscent of both the American Indian and Boer Wars. In each *motti,* armor formed a circle with artillery placed inside, surrounded by troops in individual emplacements. To increase observation and prevent surprise, the forest on either flank was stripped for half a mile. While reinforcement was dispatched to free the *motti,* air drop was begun to feed it.

In this case the Soviet won a limited if negative success mainly because the Finn lacked 3 critical weapons: fighter planes to disrupt air drop, enough heavy artillery for prolonged bombardment of each *motti,* sufficient manpower for decisive troop assault.

The Finn partially compensated for these shortages. By sneaking up to the *motti* at night he would often learn the signals flashed to transport aircraft, then race a distance away, flash the same signals and receive the Russians supplies. He replaced artillery barrage by surprise raids in which the individual soldier played the most important part. One corporal won a regimental prize after being credited for certain with 219 enemy dead by his rifle and a further estimated 220 with his submachine gun! Knowing that hunger and cold would ultimately accomplish what direct attack would immediately accomplish, the Finn concentrated on keeping reinforcements away from the *mottis.* When in mid-February the Russian sent a crack Siberian ski brigade of 2,000 men to rescue the 54th Division outside of Kuhmo, a few hundred Finns, hidden in a forest (Fig. #9) ambushed and annihilated it. The Russian next sent up 4 regiments of heavy artillery and units of an infantry division to push through the thin line sealing the *mottis* from the frontier. Although badly mauled this line continued to hold until the end of the war.

In no instance did the Russian manage to reinforce, and by the end of February about half of the 168th Division and the entire 18th Division had fallen to the Finn in the Kitela sector. But by this time every last Finnish unit that could be spared was being hustled to the Isthmus where the war was being decided.

The January war of position on the Isthmus was broken on 1 February by a gigantic Russian offensive which at once demonstrated the effect of her reorganization. Preceded by a 6 hour artillery barrage and aerial attack by 500 planes, the assault was spearheaded by mass armor, many of the tanks pushing or pulling 12 foot long armored sledges holding infantry, many carrying infantry behind their turrets. While artillery rolled back its barrage and planes strafed Finnish positions, light armor charged to either flank to loose heavy smokescreens. The infantry then leapt from tank and sledge to support the flanks and rear of the final armor assault, which included the use of flame-throwing tanks.

When this assault failed the Russian, instead of retiring to lick his wounds, was able to throw out and sustain an even more violent one. On a single day in mid-February the Russians fired 300,000 shells on the 15-20 mile front of the Summa sector, or about 15-20,000 shells per mile! On 23 February a correspondent wrote: "the only thing more persistent than the blizzard of hail and snow is the Russian artillery . . . ." This intensity, matched by infantry and armor assault, continued until the peace was signed in March.

Superficially this crescendo offensive is tactically attractive, both from a staff and command viewpoint. It does not professionally survive analysis, however.

But for lack of Finnish air and heavy artillery, it is doubtful if the logistic effort could have been sustained. As one Finnish commander remarked during the battle, "if we had planes we could smash the railways and roads on which they are bringing up troops every minute of the day and night. Why, our reconnaissance planes have photographed Russian bombers standing wing tip to wing tip crowding their landing fields on the Isthmus. We could smash them by the hundreds if we had the machines."

Although the assaults at times were better coordinated, many of the December failings remained omnipresent. Again in February Marshal Mannerheim (Fig. #10) could observe that his enemy "spared neither their infantry nor their armor [and] their losses assumed terrible proportions. There were occasions when several regiments were crowded together in a small area forming a compact, immobile mass with which our artillery concentration played havoc." After the Russian breakthrough at Lähde in the middle of February, the enemy "exhilarated by their own successes and believing that our power of resistance was broken . . . resumed their incautious tactics of storming forward in dense formations and without previous artillery preparation. It was especially the command- of armor who underrated our event and often made isolated be I feel rough the lines without such as keeping in touch with the following infantry." When the Russian advanced toward the coastal Kotka sector he ran into coastal battery defense whose "fire spread havoc, especially in the regiment which advanced from Hogland in close formation. The bursting shells created great gaps in the columns and produced chaos and panic in the ranks of the attackers, many of whom in their flight were drowned where the shells had broken up the ice."

Unlike December when Finland could fully exploit this folly of mass, she now faced a most critical shortage of manpower. After a December of attack and counter-attack, a January of incessant artillery and air bar-

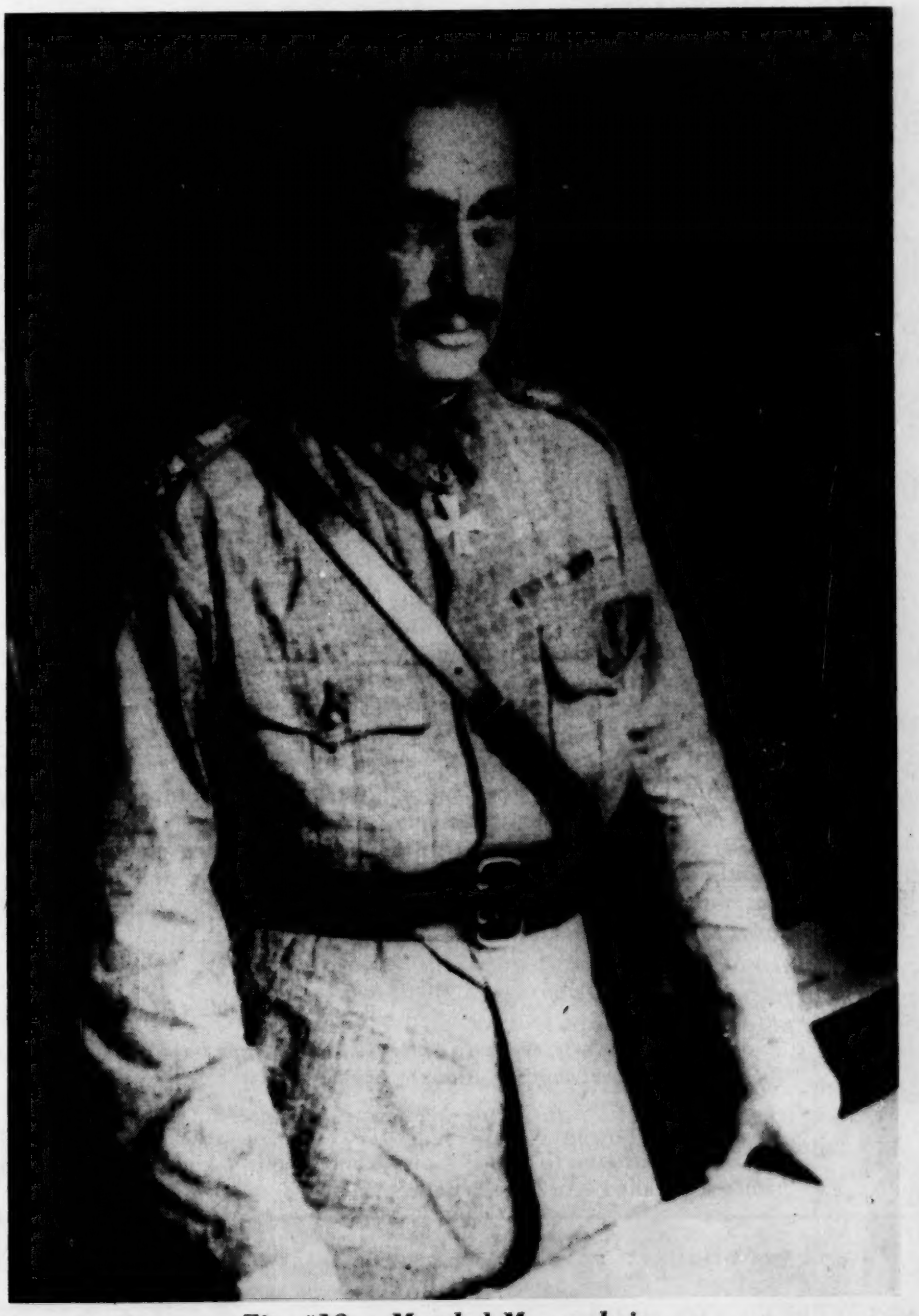


Fig. #10 — Marshal Mannerheim

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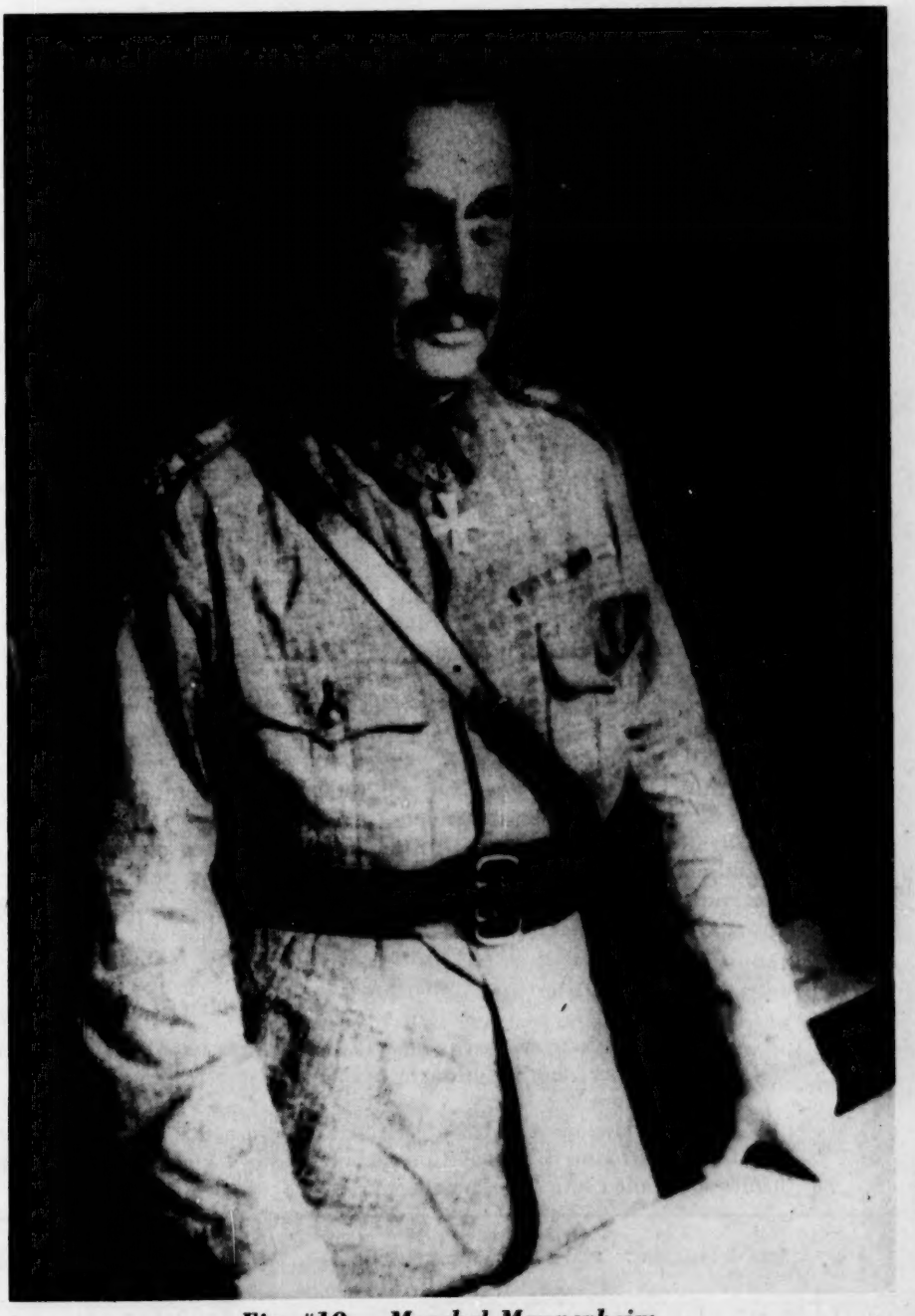

Fig. #10—Marshal Mannerheim

rage, her Isthmus defenders were tired. And replacements mainly had to come from the Eastern Front and consisted of troops who as early as Suomussalmi had been seen coming out of action, "their snow capes stained yellow, grimy . . . their faces were the faces of men who had seen terrible things and looked on death for many days," and these troops had fought a hundred subsequent Suomussalmis before being rushed to the Isthmus.

To counter the Lähde penetration, Marshal Mannerheim committed his entire strategic reserve: one worn out regiment. When the Russian flanked the Viipuri defense the Finn could find just 5 Defense Corps battalions of young boys and old men to cope with the threat. To form a final line behind the Isthmus the last reserves of 14 battalions were pulled out from training centers. They weren't enough to hold the tide until either the spring thaw or the arrival of Allied aid. Finland had to quit.

The total casualties which were immense cannot be presented with certainty. Finland admits to 24,923 killed and 43,557 wounded in combat, plus 700 civilians killed and 1400 wounded from bombings. Finland estimates that at least 200,000 Russians were killed, a figure believed not in excess by numerous eye-witnesses. On 29 March 1940, Molotov reported to the Soviet Supreme Council that Russian losses were 48,747 killed and 158,863 wounded; that Finnish casualties were not less than 60,000 killed and not less than 250,000 wounded. The latter figures can be partially adjudicated by common sense in that Finland is credited with about 10,000 more casualties than she had troops in her army. Further, just over a year later, she was to put in the field an army larger than the one now mobilized.

But casualties do not underwrite the general importance of a war except in their relation to strategy and tactics. Even Molotov's figures emphasize that Russia paid a price out of all proportion to the job at hand. While some of the bill may be explained by such factors as political error and employment of ill-equipped and ill-trained troops, the lion's share must fall to the omnipresent employment of mass.

For some indefinable reason, probably lying in the psychological realm, armies throughout history have forever reverted to mass tactics. Yet in modern wars the superiority of maneuver against mass has been repeatedly and decisively demonstrated, for example by Gustavus Adolphus in the 17th century, by Marlborough in the 18th century, by Napoleon in the 19th century. In 1928 Gen Hans von Seekt of the German General Staff in a consideration of the argument concluded that "mass becomes immobile; it cannot maneuver and therefore cannot win victories, it can only crush by sheer weight . . . ." And that is exactly what happened 11 years later in the Winter War. USMC

★ ★ ★ ★

No More Santa Claus

IN DAYS GONE BY AT QUANTICO, the young aeronauts of one of the squadrons in Aircraft One were captivated by the entertaining (and economical) fad of signing their bar chits with the name of "Santa Claus," or, briefly, just "S. Claus."

When the first wave of such chits hit the Club office, the OinC of the Mess, a salty old captain with well over 10 years in grade, broadcast an alert to the bartenders. A few days later, one of the barmen silently beckoned the captain; a "Santa Claus" chit had just crossed the bar, and its author, a young aviator, was at that moment deep in a therapeutic beer.

"Lieutenant," said the captain, "is this your chit?"

There was a long silence. "Yes, sir," replied the lieutenant.

"Well," the captain rejoined, "I certainly am glad to find you here in person. I have $269.75 worth of your chits. We sent your last bill to the North Pole, but never got any reply." Another pause — "Your check for $269.75, please, lieutenant."

Slightly green about the gills the lieutenant fumbled out a check (his monthly stipend in those days, including flight pay, being $205.50) and signed it with a different name, a discrepancy which the captain graciously overlooked. Of course the other j.o.'s chipped in to bail out their comrade, but — from that day forward in that squadron, there was no more Santa Claus.

Col R. D. Heinl, Jr.

Let's Knock Off Rank

I TOOK MY DAUGHTER TO THE DISPENSARY FOR SHOTS and had Cpl Chambers drive her home in my car. My wife asked her who had brought her home.

"Col Chambers."

"I don't know any Col Chambers. Are you sure that was his name?"

"Daddy introduced him as Cpl Chambers but I know I'm not supposed to call grown-ups by their first names so I called him Col Chambers."

Col W. F. Prickett

(The GAZETTE will pay $10.00 for each anecdote published. Submissions should be short and pointed.)

OBSERVATION POST

CHRISTMAS TREES ON WHEELS!

29 PALMS, CALIF.—If you look in any Marine Corps truck or gun parks you will find in many cases our vehicles look like holiday trees. A trend to stencil a half dozen or more markings and messages on vehicles and to brightly paint accessories and equipment is a dangerous and undesirable practice prevalent in the Corps today.

It may be acceptable to have some non-combatant type vehicles gaily painted for parades and to attract attention on recruiting duty but a line must be drawn somewhere. It is not at all unusual to see truck winches covered with white painted canvas and large red or yellow Marine Corps emblems stenciled on the canvas. While the idea to protect the winch is excellent, a piece of green or camouflaged canvas would serve the same purpose. Some vehicles have 3 and 4 inch letters spelling out various messages, i.e., the speed gasoline should be pumped into the tanks, nick-names of the vehicle or gun, etc. Lettering of a smaller size would serve the same purpose. These same vehicles may have other signs hanging from various parts of the truck. There are, of course, in addition, unit markings on the doors, hood, front and tailgates as well as on the canvas tarps. Two markings would be sufficient. Some drivers have gone a step farther and have displayed white tow cables which are tipped with various colors.

We have all seen vehicles involved in a tactical exercise being camouflaged. Time and effort is spent to prevent reflection from the windshield and headlights. Garlanded nets are wisely used. Yet glaring through all this disguise are the red and yellow signs and painted pieces of canvas.

There are those who argue that these items and the numerous colors and markings can be removed in the event of war. However true this may be I feel this is not justification inasmuch as the time required for such an undertaking could be better utilized for other wartime preparations. Others state that a vehicle which displays these "extras" indicates driver pride and is generally an indication that the vehicle is well maintained. This may or may not be true. It is possible that these "extras" are at the expense of more important maintenance and the time required to install and maintain these items could be more wisely used.

In my opinion the arguments above are not justification enough to tolerate violations of the principles of camouflage. We should not accept unrealistic combat preparation. Let's teach as many combat lessons as possible in our daily, peacetime training. Because there is no war, we need not tolerate certain practices which would be condemned in a combat zone.

Capt E. F. Fitzgerald

NCO PROMOTIONS

4TH MAR, 1ST MAR BRIG — When the Marine Corps instituted our present NCO promotion program, it was welcomed with mixed emotions. The old line insisted that it was silly, that company commanders should have the power to select their own small unit leaders, at least at the fire team and squad level. The liberal thinkers heralded it with songs of "equality and fairness never before reached in the Marine Corps." Now after 9 years perhaps a little reflection on the matter is due.

Some will say that a war and general expansion without loss of proficiency proves the ability to select the proper leaders through this program. This of course is not true. For one thing, the NCOs that led small units through the first dark days of the Korean War were not products of this promotional system, but were the hard core NCOs selected through personal competition with other members of their individual units. Later on, after the products of our present promotional system started flowing through the replacement system and on to the battlefield, many of them were found completely unqualified for jobs as leaders. NCO schools sprang up (a good thing) and non-commissioned officers who just couldn't cut the mustard were shifted around to less responsible jobs. But the billets that required their rank still had to be filled. These billets were usually filled by men without the proper number of chevrons and drawing much less pay than the billets called for.

One captain I know, who was a lieutenant platoon commander with the 1st Marines in 1952, tells the story of just such a case. He had one SSgt and 4 Sgts assigned to his platoon. The SSgt, a very capable NCO was of course his platoon sergeant, one sergeant was his guide, but he did not have one sergeant squad leader. These billets were filled by 2 Cpls and one Pfc. The other 3 Sgts were employed in such dubious positions as "assistant platoon guide," "senior runner," and "radioman." Some officers and senior NCOs will read this and throw up their hands in disgust. "All NCOs should be employed in billets commensurate with their rank." Fine .... in theory. But this officer didn't have time to worry about such niceties, what he was primarily concerned with at that time was the operational proficiency of his 3 rifle squads, of the ability of his subordinate unit leaders to carry out assigned missions, and perhaps, he

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may have been just a little concerned for the physical safety of the men in those squads.

I sincerely believe in our system of GMSTs and TTs to ascertain a Marine's qualifications for promotion. But the fact that a man can pass these examinations, doesn't get into trouble, does what he is told (he may not do any more than what he is told) does not qualify him for the specialists position of being a non-commissioned officer and small unit leader.

Here is a 3 point program that I believe will improve our present promotion program:

1) That on page 3 of the service record book a third column be added for marking leadership only.

2) That when a Pfc becomes eligible for promotion to Cpl, he be made aware of it and be required to apply for the promotion, and such application be entered on page 11 of the service record book.

3) That a third grade of private be instituted to allow good men to be advanced without invasion of the non-commissioned officer ranks with poor leaders. (The new 9 pay grade enlisted structure would absorb this rank easily.)

With these 3 requirements, plus giving privates the opportunities to lead and be observed leading, I believe that the selection of the right man for the specialist position of leading infantry units will be vastly improved.

1stLt J. F. Cody, Jr.

IT'S JUST AS EASY TO DO IT RIGHT!

SAN FRANCISCO, CALIF. — How many Marines do you see salute in the regulation manner? Be honest and admit that only about 50 per cent do it exactly right. Well, 70 per cent is passing for examinations, but as far as the salute is concerned, anything less than 100 per cent is failure.

A Marine *wants* to do it right. The "Head up, alert look, the heel click and cheerful 'Good Morning, Sir' " show his sincere desire. He *thinks* that he is saluting properly. The conclusion must be that the Marine is just not taught right in the first place. We allow eccentric salutes because it takes too much trouble to do anything about it. The Commandant of the Marine Corps has stressed saluting in orders. There is no improvement except where the commander gives it his personal attention. It is not a "one-shot" affair. It demands follow-up action.

At Parris Island a couple of years ago, the Commanding General noted that salutes were rendered improperly. The first impression of many officers and noncommissioned officers was, "Who, me?" In many cases the answer was, "Yes, you, and in your command." It was evident, even in pictures of staffs reviewing parades that were published in the *Boot*, the Recruit Depot paper. No, there weren't "57 Varieties," but there were about 7 variations. The General was patient, perhaps overly so, for he had to repeat his observation at several staff conferences. Saluting improved. In fact it was nearly perfected! How was it done? Troop Inspection and drill for permanent personnel was held 3 times a week. Arms were stacked and saluting instruction was conducted. Correction of improper salutes was made on the spot. Incidentally, the ones who did it right in the first place were not required to maintain the position while others were being corrected. They could stand at ease in ranks. You know, it didn't take long. Parris Island Marines saluted properly.

The first thing to tackle is, "Who, me?" The privates are not the only ones who do it wrong. After all, they learn by example. The commander, be he general or lieutenant, must ask himself, "Is my salute correct?" Ten seconds of practice before a mirror will answer. Then comes the positive action. Each one who salutes incorrectly should be stopped and instructed. Gate sentries, who are in public view and who do more saluting than those performing any other duty, should be the examples. Their salutes should be perfect all the time. Periods of drill time should be set aside for correction. To save looking up in *Field Manual 22-5*, paragraph 19, or *Guidebook for Marines*, 1956 edition, page 18, here are the common errors:

1) The palm of the hand is cupped. Fingers are not joined and extended.
2) The wrist is not straight.
3) The forearm is not inclined at 45°.
4) The tip of the forefinger does not reach the headdress — or the thumb does.
5) The hand is not returned to normal position in one motion.

Some may say, "I have bigger problems than saluting." We can improve saluting at the same time that the "big problems" are solved. If we make the effort, it will not be long before our traditional smartness in saluting will be restored. To sum up, the drive has to come from the top and follow through. The word will get around. To use a slogan, "It's just as easy to do it right."

Col. J. A. White

THE SPRING TEST

NROTC, STANFORD UNIVERSITY — Every Marine a rifleman is a task to which we must all apply ourselves with redoubled effort. In these times where additional stress and encouragement is applied to the proficiency of specialists, it will be up to us to aid them in every way possible, but keeping in mind, the fact that a specialist can and must be a qualified Marine rifleman.

We must realize that the time alloted to general military subjects will be even more limited. This is where our maximum efforts must be "turned-to." Our instruction in these periods must produce more than ever before.

In the subjects of infantry weapons is where this suggestion is offered. Using this method of examination the nomenclature and func-

tioning will work hand in hand, motivation is automatic, and a fuller understanding of the weapon is accomplished. This suggestion is to use the *Spring Test*. The only training aids required are the chalkboard and chalk. In starting a session of instruction on a weapon, the instructor asks a student for the name of a spring in that weapon. The instructor writes the name of the spring on the chalkboard, and asks another student what the purpose of that spring is in that weapon. He follows on asking the names of springs and the task of each spring, listing the names of the springs on the chalkboard, until all the springs are listed.

This creates quite a challenge as the majority of our weapons are either semiautomatic or fully automatic and many of the springs accomplish numerous tasks. Some sample revelations to many of the students will be the numerous reasons for the sear spring in the .45 cal. pistol; the duties the clip ejector performs in the M1 rifle; that the operating spring in the M1 rifle works in both directions, and what returns the trigger of the BAR to its forward position. It will more fully explain the action and reaction that takes place when they "hold 'em and squeeze 'em." The squeeze on the trigger, triggers off a chain of action and reaction that sets almost every spring in that weapon into action. It also provides a simple means of questioning that many of our NCOs have difficulty with.

Nomenclature of the parts is retained readily with the understanding that the parts are really named for what they do and understanding of the functioning or probable malfunction of the functioning of these weapons is attained.

IstSgt A. B. Kouma

MYTHS VS. TRADITIONS

MCRSS, NEW RUDD HOTEL, OWENSBORO, KY. — A Marine got 6 months in the brig at Parris Island for smoking when his D.I. told him not to. In the Marines, if you can't swim, they keep you in the water until you can.

Do these statements sound funny? Perhaps to some of us Marines they do, but these are actual statements I've received from parents and relatives of young men I'm trying to sell on the Marine Corps. And these are mild; I've heard all sorts of exaggerated stories and claims ranging from ridiculous to horrifying. But what's even more important is when I try to pin down the source of these stories and rumors, in most cases I'm told that they came from Marines home on leave or ex-Marines. Naturally I do everything I can to disprove these tales and myths, but once the mother of a 17-year-old has heard tales of this sort, it's like talking to a wall sometime to explain how very untrue they are.

The new Marine home on leave should be a potential recruiter, but oftentimes while talking to his civilian buddies he tends to exaggerate on how rough boot camp was, what he *had* to do, etc. He may mean well but we all like to impress someone on how tough we think we are, however, every word he tells those other boys spreads like a forest fire. If what he told them was even slightly exaggerated, by the time the story is fully circulated, it's like a nightmare. So our potential recruiter is a *good* recruiter after all, but for the other services.

What can be done about this alarming situation? Surely there are sufficient lectures given at each post and station informing men going on leave that they are representatives of the Marine Corps in their home towns, but is that enough? The sharpest looking Marine strutting down main street in his dress blues is the best advertisement we recruiters have — until that sharp Marine decides to engage in some grossly exaggerated sea-stories with the gang down at the pool hall.

I have found it far easier to tell potential Marines and their parents that the Marine Corps is indeed a tough organization, where physical training is stressed to a high degree, and much emphasis placed on strict obedience to orders.

Every Marine can do his part for the Corps by remembering that how he represents it while off the post is what all civilians regard it to be. Looking sharp is only half of it — it's how you express your loyalty that makes the difference.

TSgt G. F. Merna

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Make 'em Professional and

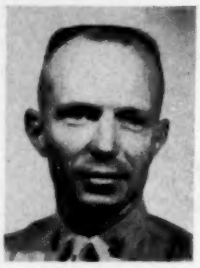
SHIP 'EM OVER

By Sgt L. E. Dye, Jr.

WE CAN NO LONGER DENY THAT the Marine Corps today faces a serious personnel problem. For some time most professional Marines have been concerned over our apparent inability to attract more men to the ranks of the professional and, with this in mind, I have set out hopefully on the search for a solution.

A few years ago I re-enlisted in the Marine Corps as a re-trainee in the infantry field, and once again I am serving with the FMF after an absence of more than 10 years. Needless to say, the intervening years have produced many changes —both good and bad—but what has surprised me most of all, is the overall low rate of re-enlistment. My return to the FMF after such a long absence gives me, I feel, the combination of a fresh approach to the problem along with a sound basis for comparison with our past success in dealing with it.

First of all, I believe we may safely discount any basic change in the American character, or in the type of Marine Corps personnel, as possible contributing factors in creating our re-enlistment problem. Likewise I believe that our principles of leadership are psychologically sound and that revision of these is not necessary or called for, nor do I believe that the Marine Corps is lacking in good leadership. Therefore, let us proceed to examine what I believe are the pertinent factors of our re-enlistment problem and what I hope we may do about them individually and policy-wise.



Sgt Dye enlisted in the Marine Corps in 1941. In 1946 he was discharged and returned to UCLA, where he completed his studies, majoring in Business Administration, Psychology and English. Reenlisting in 1947, he served until 1953. From 1953 to 1955 he managed the American Visitor's Bureau, Madrid, Spain (as a civilian). He speaks French, German and Spanish. He reenlisted in the Marine Corps in 1956 and at present is the Platoon Sergeant, 1st Platoon, "I" Co., 3d Bn, 5th Marines.

The first and most obvious factor affecting the general attractiveness of the Marine Corps as a career is the unprecedented level of American prosperity combined with a definite and significant improvement in civilian retirement benefits. It is not within our power to affect this situation other than to point out the many advantageous aspects of Marine Corps retirement and fringe benefits, and I am sure that we are already exploiting these selling points to the maximum.

An almost equally significant factor is the large size of the Marine Corps and the number of Reserve Marines we must maintain. Because of the draft law, many men are Marines today who normally would not be in any branch of the Armed Forces. We cannot expect these men to enter the military phase of their lives with the motivation of our previous 4-year Regular. This, of course, brings up the point that the Marine Corps today has a large number of "short-time" personnel whom it is obliged to train and later to discharge into the growing body of its inactive Reserve. These are the people toward whom we must look for many of our future career Marines, and this is a point we must always bear in mind while we are training and forging them into fighting men.

The Marine Corps has always emphasized discipline, neatness and esprit, in addition and complementary to, its primary mission of training as a hard-hitting striking force. But in accomplishing this already difficult task it is now faced with 3 difficulties which did not previously exist. First, as I have pointed out, we have a large number of short-time "obligers" to train; second, we have a greater quantity of equipment and uniforms to maintain; third, we have a much larger body of technical knowledge to master in order to be able to complete our mission in the atomic age. However, in spite of these difficulties and due in large measure to the dedication of officers and staff NCO's, these men are being forged into effective Marines. But, we must admit, it is a difficult task which has succeeded only insofar as the indispensable training is concerned. Unfortunately we have failed to make the Marine Corps attractive as a career.

The second and third factors we may consider jointly. The greater quantity of equipment and clothing which we must maintain, along with the new and complicated weapons which we must master, mean that today's 2 or 3 year Marine must spend more time maintaining his gear and mastering the more complicated weapons and techniques which the atomic age has brought on than his predecessor, the 4 year Regular.

We must not only accomplish our intensified objectives, but we must also try to do this in such a way as to attract more men to the ranks of the professional cadre, which seems to be what the Regular Marine Corps in large measure has become. Once acknowledged and faced, our problem will, I am sure, be solved after it is given the type of relentless attack which the Marine Corps has always applied to its special tasks. However, let us see first of all how we have reacted to the challenge it has presented and how this reaction has affected the average infantry organization with specific reference to esprit and morale.

As a rule, our officers and staff NCO's have responded to the urgent requirements of a modern fighting force in true Marine fashion. They have put their heart and soul into meeting the demands of a "tight" training schedule, driving their men as they do themselves, hoping to achieve by the unremitting application of will power, goals which are set higher than ever. In most cases they have been successful in meeting these requirements, but I am afraid they have done so at a disconcerting price, for too often they find that the men no longer respond to their efforts as the pre-war and war-time Marine responded. Failing to elicit a willing response, they have found it necessary to resort to coercive measures, and thus they apply additional pressure. In many organizations this policy has reached such a pitch that morale is low and few Marines are re-enlisting; instead some have given themselves over to a sullen discontent, feeling that their efforts are not appreciated and that their welfare is being neglected. Unfortunately these feelings are in some measure justified.

Let us examine the situation as it exists in many organizations today. Rifle and Weapons companies participate in many field maneuvers and night exercises, after which they often follow a full day's training schedule with only a few intervening hours dedicated to sleep. The men follow a rigid and often unvarying 8 hour training schedule, and all care and cleaning of equipment must be performed on their own time, as must preparation for inspections. With 2 nights per week dedicated respectively to field day and night training, one can imagine how the remaining nights are spent. The class-room instruction and training exercises are often dry and uninteresting. To enforce this unpalatable regimen, senior NCO's are obliged to harass their men, and under these conditions they fail to give them due praise or a feeling of accomplishment. It is not surprising that threats and punishment become the order of the day, and it is understandable that the re-enlistment percentage in the 03 field is low. Not many men will wish to commit themselves to a lifetime of the unremitting and thankless grind which our training in large measure has become.

Such a situation is, I believe, self-explanatory, and it has resulted in a schism between leaders and men that is bad for esprit, morale and discipline. The loser in this battle is not only the Marine Corps, which loses potential leaders, but also the leaders and men themselves who are deprived of the pleasure that comes from cooperative group effort and its subsequent esprit and pride in organization and self.

This state of affairs is the outcome of an ever-increasing centralization and consolidation of authority in the hands of higher echelon commanders which has resulted in an inevitable and corresponding diminution of authority, prestige and initiative on the part of subordinate commanders, from the company level down to the fire team. It is also the result of a relaxed discipline exercised over our latter-day student-recruit who must now receive some measure of disciplinary indoctrination in his post-graduate organization. But more fundamental than any of these causes is the stress and strain consequent to training and maintaining in combat-readiness a large elite atomic-age Marine Corps. Keeping up with the Joneses and incorporating the latest scientific advances into our combat techniques has resulted in a spate of transitory regulations and added administrative demands whose respective and unpredictable emergence and disappearance on the military scene have left our leaders as well as our ephemeral 2 year Marines in a state of chronic uncertainty and instability. Thus our already harassed leaders must redouble their efforts in their frenetic attempts to comply satisfactorily with the enigmatic demands of shifting and short-lived regulations. Gone forever is the "old soldier's home" and the serenity and quiet panoply of a happily stabilized Old Corps!

Unpleasant though such a picture may be, I believe that there are a number of things we might do to clear away the clutter of these distractingly ugly problems, and we may find that once again our military landscape can assume the proportions, and beauty of order, in-

herent in an elite organization such as ours.

First of all, I suggest that on a higher level our training needs be reviewed, and that the training schedule be made more flexible so that commanders of smaller units may be given more authority to devise and apply training schedules. I suggest that every effort be made to make instruction interesting as well as effective and that at the same time the men be given occasional free periods to work on their gear. The 1st MarDiv NCO Leadership School is making outstanding progress in teaching the technique of instruction, and I suggest that even more emphasis be placed on this vital subject. While we cannot make all instruction interesting or stimulating, we can and should vary the routine to reduce the fatigue of boredom as much as possible. Along this line, I believe that we should reduce the size of the classes by allowing squad leaders to give classes to their squads on the basic infantry weapons, as used to be the case. This will develop leadership on the part of junior NCO's, as well as allow for more individual instruction and student participation.

I especially urge that all leaders examine their attitudes toward the men to see if they have not allowed themselves to be overcome by a feeling of resentment for our modern "short-time" Marine. Let us place a renewed emphasis on leadership by trying to convey our enthusiasm to the men rather than by relying exclusively on "driving" tactics. Let us give more initiative to subordinate leaders and develop their qualities of leadership. Let us again consider carefully the welfare and well-being of our men and give them more encouragement and praise, for we must not only train them to be Marines, but we should also give them a solid basis for esprit, pride and a feeling of accomplishment. Let us study and practice the art of leadership.

And now I shall try to get to the heart of the problem by approaching it from the viewpoint of feeling —how the Marine personally feels about the Corps. Two major wars have successively convulsed the Corps, resulting in a complete shake-up with respect to number and placement of personnel. We are now swollen with young trainees to a size many times over our number in 1940, and most of our personnel who entered before and during WWII have become officers or have left the service, and a few have remained as senior staff NCO's. Thus we have an almost brand new Corps, for even the majority of staff NCO's in our rifle companies entered the Corps some time between WWII and the end of the Korean conflict. This cannot help having a strong effect on the over-all attitude or feeling of today's Marine.

What is the difference of feeling of today's Marine and the Marine of 1940? I think most old-timers will agree that it is a question of degree of identification of self with the Corps. For example, the pre-WWII Marine, in almost 100 per cent of the cases, felt that he was a professional. Today the same feeling exists mostly in the grade of staff sergeant and above. One reason that we are not the Corps of yesterday with respect to morale is that the majority of sergeants and corporals whom I have encountered not only don't feel the sense of being professionals which characterized most Marines before WWII (whether or not they planned to make the Corps a career), but in many cases they do not even take an interest in maintaining themselves or their men at the high standards usually associated with the Marine Corps.

Now I believe that most "old Marines" will agree that the average Pfc or Pvt is inordinately influenced by his immediate supiors in grade—his sergeants and corporals. If his NCO's are on the ball and have a professional sense of dedication, the man himself will absorb much of the morale and esprit of his leaders, and thus again we are reminded of the fact that sergeants and corporals are indeed the backbone of the Marine Corps. I firmly believe that if we can indoctrinate our NCO's and inject them with this morale and esprit our re-enlistment program will at the same time be given a definite shot in the arm.

Can we again make our sergeants and corporals the backbone of the Marine Corps? I believe it can be done, but among ourselves we must make certain changes in policy which will make this task easier. First of all—and this may seem paradoxical at first glance—we should

make it more difficult for the Marine to make his first 2 rates. I do not mean more difficult in the sense of making him master his field more thoroughly—though this too is important—I mean that his attitude must be such as to warrant his receiving the promotion in the sense that he is relatively mature, loyal and cooperative. We do not want to give men responsibility and a rate to "square them away!" We should carefully observe all our young NCO's to make sure that they are setting the example, not hesitating to reduce them if they cannot or will not be good NCO's. If this policy were put into effect, some organizations might have a temporary problem with regard to being understaffed, but the general level of NCO's will be raised and, in the long run, I believe that we will not find it difficult to find apt candidates for rank, once a rate becomes something to work for and not just something that comes along in due course.

Along with the inauguration of this policy, we should give all our NCO's more privileges and consideration. I have observed that the quality of leadership improves when junior leaders are given privileges along with responsibility. For example, during pay call, I do not think it would slow up matters too much if the men were to stand in line "alphabetically according to rank" as used to be the case. I believe it would be well worth the trouble if certain tables in the mess hall should be reserved for sergeants and others set aside for corporals and, where possible, we should give sergeants separate quarters. These are only suggestions, of course, but I am sure that each organization can find many little matters in which it could favor its junior NCO's and thus help raise the prestige of the NCO to its former heights.

However, I have another idea, which—if it were put into effect—would certainly enhance the prestige of the NCO considerably and give him that tangible mark of the professional Marine which most of us seem to need. I suggest that all Marines be issued the traditional blue uniform and that it be made the prescribed liberty uniform during the appropriate season (except for commuters and personnel in transit). It will help make the uniform once again an integral part of a Marine Corps which has largely relegated it to ceremonies, parades and special occasions. Its issue and display as a liberty uniform would undoubtedly attract more recruits to the Corps; and it would automatically put an end to the present merriment which a Marine who dares to wear this uniform on liberty now excites in other not-so-intrepid Marines. I do believe that the adoption of such a policy would help both our enlistment and reenlistment program in addition to raising our professional standards and it would enhance our over-all feeling that we belong to a professional Marine Corps.

However, one thing is clear: Whatever the future may hold for the Corps, we must solve our immediate problems pertaining to procuring, professionalizing and retaining desirable personnel. I believe we have about one year in which to do this; otherwise we might find to our sorrow that these problems—now glowering on our doorstep—may break into our already disturbed household and force on us a solution much less to our liking than our pleasant alternative of attracting and holding more of our "transient personnel" to a wiser Corps. We do not want the draft. In the meantime we should remember the cardinal points of giving more responsibility and privileges to juniors, of selecting NCO's carefully, and of allowing more lattitude to subordinate unit commanders to adopt and adapt their own training schedules; we should attempt to train our NCO's in the exercise of initiative and leadership; and we should adopt policies which will give them the status and feeling of belonging to a professional Marine Corps which values their services. If we succeed in this, we may after all achieve the alluring *tour de force* of producing a taut combat-ready Marine Corps which is better prepared than ever to meet the expanding demands of an atomic age, precisely because she is staffed with loyal and professional NCO's who once again will carry today's much heavier load on their young shoulders. We would attract more men initially to such a Corps and at the same time ship over more desirable NCO's, thus creating a "beneficient circle" and solving (as a pleasant by-product) some of our most urgent training problems. With determination, patience and goodwill we can do this. Lets make 'em professional and ship 'em over!

USMC

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Edited and Translated by JACOB SLOAN

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McGraw-Hill Book Co., Inc., NY. $5.95

MASTERS OF DECEIT

J. EDGAR HOOVER

The Director of the Federal Bureau of Investigation explains the startling fact about the major menace of our time—communism: what it is, how it works, what its aims are, the real dangers it poses, and what loyal American citizens must know to protect their freedom. This is a powerful and informative book—a firsthand account of American communism from its beginnings to the present, written by a man more intimately familiar with the complete story than any other American.

Henry Holt and Co., NY. $5.00

EXTRAORDINARY SEAMAN

J. P. W. MALLALIEU

Napoleon nicknamed him "the Sea Wolf," the Spaniards called him "the Devil," and today his bones lie beside those of the Unknown Soldier in Westminster Abbey. He was Thomas Cochrane, 10th Earl of Dundonald. Serving England in the age of Nelson, Cochrane showed himself in his exploits to be scarcely inferior to "the greatest sailor since the world began." Cochrane was a man of rare ingenuity in attack, utterly courageous, a master of deception in naval tactics, and an inspiring commander of men.

The MacMillan Co., NY. $3.5

NATURE IS YOUR GUIDE

HAROLD GATTY

Written in non-technical language for all outdoor people, this book explains the art of pathfinding in the wilderness, at sea, in the desert, in snow areas and under many other conditions. The author spent 35 years in research in navigation, including not only modern methods, but also those used by primitive peoples which have stood the test of time and are still practical.

E. P. Dutton, Inc., NY. $4.95

END OF A WAR

EDWARD LOOMIS

This novel deals with the last months of WWII in Europe and with the months immediately thereafter. In it the reader follows George Leggett, an infantryman, from France through Belgium into central Germany, and at the same time meets his companions, his enemies and some German women. The author, a member of the English Department of the University of Arizona, participated in the European conflict as an infantryman.

Ballentine Books, NY. $3.95

ONCE AROND THE SUN: The Story of the International Geophysical Year

RONALD FRASER

In this story of man's attempts to learn the secrets of his physical environment, the author tells why an 18-month period was set aside for the International Geophysical Year and what we hope to learn through the coordinated efforts of scientists from 64 countries of the world. Highlighting the importance of the sun in the study of geophysics, Dr. Fraser covers all phases of the sun's behavior and its various effects on the earth.

The Macmillan Co., NY. $3.95

MOON SQUADRON

JERRARD TICKELL

On a somber day in 1940 a secret military organization was set up in London. One of its names was Special Operations Executive — more often it was known in its work as the Moon Squadron. Its purpose, in Sir Winston Churchill's own words, was to "set Europe ablaze." Until now the activities of the Moon Squadron have been tightly guarded secrets. These stories are about the daring and courage of the men involved.

Doubleday & Co., NY. $3.50

GRAF ZEPPELIN

J. GORDON VAETH

This is the biography of one of the most successful and beloved aircraft ever built and of its great commander, Dr. Hugo Eckener. The Graf was the safest of the dirigibles and was perhaps the most famous aircraft of all time. It circled the earth, explored the Arctic, made scores of Atlantic crossings, and pioneered the first scheduled air passenger, mail and cargo service across the Atlantic.

Harper & Brothers, NY $4.00

ORDEAL BY WATER

PETER KEEBLE

During WW II much of the success of British naval operations in the Mediterranean hinged on the courage and resourcefulness of one man—Peter Keeble, a skillful diver involved in the perilous job of naval salvage and harbor clearance. There were always personal dangers: from too many hours in oily, mine-infested waters, from booby traps, from the dreaded "bends," from failing mental alertness while working at depths of over 200 feet. This is LtCdr Keeble's story.

Doubleday & Co., NY $4.00

BEHIND THE SPUTNIKS: A SURVEY OF SOVIET SPACE SCIENCE

F. J. KRIEGER

This volume presents a picture of recent Russian research and ideas on such matters as artificial satellites, flight to the moon, interplanetary communications, biological aspects of space travel, atomic airplanes, trips to the planets, worldwide television broadcasting from space stations, intercontinental rocketry and the technical problems of cosmic flight. The author is on the staff of the Rand Corporation, a nonprofit organization conducting long-range research for the Air Force.

Public Affairs Press, Washington, D. C. $6.00

CHANNEL DASH

TERENCE ROBERTSON

For 11 months during WW II, Intelligence had warned the British Admiralty that 3 German cruisers—Scharnhorst, Gneisenau, Prinz Eugen—lying at Brest would attempt a daylight escape through the English Channel. The Air Ministry and Admiralty thought a daylight dash unlikely and arranged a defense based on the assumption that such an escape would be under cover of darkness. On the morning of 12 February 1942, escorted by destroyers, "E" boats and minesweepers and under a protective "umbrella" of aircraft, the German warships began to steam up the Channel, taking the British by surprise. This is the story of the air and sea engagement that followed.

E. P. Dutton & Co., NY. $4.00

BLOCKADE: THE CIVIL WAR AT SEA

ROBERT CARSE

This is the story of the gallant men and ships that made perilous runs from Nassau, Bermuda and Halifax to Wilmington, NC, the only remaining open port in the last years of the Civil War. Working from memoirs, diaries and other records of the Confederacy, Mr. Carse tells the stories of many heroes. In addition, he describes England in a depression as the cotton mills were closed; the seige of Charleston, and Nassau with a new population of blockade runners, Confederate captains and refugees, Union spies, shipowners, prostitutes and adventurers.

Rinehart & Co., NY. $5.00

THE BATTLE OF COWPENS

KENNETH ROBERTS

This last historical work by Kenneth Roberts to be published is an account of how 900 ill-fed, ill-clothed sharpshooters led by young Daniel Morgan routed Banastre Tarleton's British regulars. The Battle of Cowpens was the psychological and military turning point of the American Revolution. An encounter lasting only one hour, it sets the stage for the final cornering of Lord Cornwallis at Yorktown.

Doubleday & Co., NY. $3.50

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PASSING IN REVIEW

—AND A FEW MARINES

COL JOHN W. THOMASON, JR. 667 pages, illustrated. Charles Scribner's Sons, NY. $5.95

". . . In Many a Strife We've Fought for Life . . ."

As any combat veteran will tell you, participation in armed operations against an enemy on land, at sea, or in the air, is not an experience likely to be forgotten. Aside from the dynamic aspect there is a close, personal influence somewhat akin to undergoing a little rough-and-ready jackknife surgery or being involved in a serious automobile accident. The participant who survives the rigors of an active campaign is not prone to forget some of its more unpleasant features. As for those who do not, their passing and the manner and moment of it are shared most intimately but with them and their Creator. For it makes no difference whether a man is killed or wounded by a well-aimed bullet; blown to bits by a stray shell or a grenade; gassed or blinded by chemical means; hacked apart deliberately by a machete; drowned at sea; or just plain run over by a vehicle — the end result is the same — combat is a highly individualistic experience to those so engaged.

Perhaps no Marine was better qualified by experience and ability to relate and to depict the campaigns and the service life of his era than the late Col John W. Thomason, Jr. During the two decades commencing with the Kaiser's War in France and continuing through the armed expeditions in Nicaragua and China, roughly the period 1917-1937, Col Thomason had his full share of "things endured and experienced," and his able pen set it all down quite literally in black and white in his own inimitable style for all to read and to observe. Initially published as four separate books — *Fix Bayonets!, Red Pants, Marines and Others,* and *Salt Winds and Gobi Dust* — the majority of these tales plus several others which appeared in the *Saturday Evening Post* were later incorporated into a single volume — *And a Few Marines.* At popular request and for the edification and entertainment of later generations of Marines, a new issue of this classic has been published, the initial version having long since been sold out.

Col Thomason once wrote in the *American Mercury:* "The function of my department is not as I conceive it to read books for people, but rather to direct attention to certain of them, and to invite reflection upon what they signify." Continuing the trend of this laudable precept, the present reviewer is of the opinion that — *And a Few Marines* is a veritable treasure house of information, good reading, and enjoyment of equal benefit and pleasure to all who have in any way and at any time been associated with the Marine Corps, regardless of age, length of service, or experience. Herein all elements will derive immense satisfaction ranging from those readers primarily concerned with nostalgic remembrances of the not-so-long-ago, so-called "Old Corps" of the pre-Pearl Harbor era to the natural curiosity of a current, young volunteer at a Recruit Depot. Aside from the pure historiography and the lively manner in which the account has been rendered, the tales themselves are replete with Thomason's observations varying from the philosophical to common horse-sense advice, applicable in any age to any one whose profession is basically that of leadership of men in battle.

To Marines of artistic temperament and appreciation, — *And a Few Marines* will serve as an outstanding inspiration and example of lucidity, action, accuracy, and faithfulness down to the most minute detail. Thomason did not resort to "props" nor to photographs — his interest lay with the vibrant present, and he wrote and he sketched what he observed on the very spot of the action. The sketches you see were rendered on any bit of paper or otherwise reasonably appropriate material, immediately available; they were not drawn long after the event in more peaceful surroundings, and that is why they are so striking. For the Colonel was no "combat correspondent" nor "combat artist" in their presently-accepted terms — he was a Marine Officer in action with the lives of his men at stake, and before he could pick up the pen he had first to lay down his firearm.

It has been said of the renowned artist, Frederick Remington, depictor extraordinary of the American West and the Army on the Frontier, that "he knew the horse." It may well be said that Thomason "knew the human body as well as the animal," for even in early youth the Colonel had observed and studied the form, structure and anatomy of all living things, great and small, at first hand, and was to continue it most assiduously in his later, formal art schooling. Likewise a student of human emotions, particularly under stress and strain, his sense of realism in his

writings and sketches owes much to his interest in fellow man and his profound concern for their well-being.

Through the volume you will note that realism has been accomplished without resort to vulgarity, obscenity, or sensationalism. This is in marked contrast to those many novelists who wrote of their experiences in WW II and in Korea with an apparent, thinly-veiled intent to work off a personal grudge against one or more of the armed services, in which it appears, they encountered much to their disliking. Admittedly, many were well-written and some became best sellers, but in the majority the theme was one of discontent which in turn found ready acceptance among the discontented. This is quite the reverse in the case of —*And a Few Marines.* Col Thomason loved his service and believed in it implicitly; he chose to write not about freaks and cranks, of which there were but very few, but of the overwhelming majority of normal people; he wrote not for acclaim at any cost but rather to set down the hopes and aspirations and the trials and tribulations which each must face up to and master in an honorable way in a simple and straightforward manner. You will find no rancour in —*And a Few Marines*—you will find warmth, understanding and truth.

For those allergic to red tape and who feel that omniscience of electronics and impersonality of machine accounting at times somewhat suffocating, this volume will come as a welcome relief. It is a tale of professional soldiering in many lands when life was somewhat less complicated; when "gadgets" were in relative infancy; and when a man's pride was greatly enhanced by feeling that he "belonged," and that regardless of how small a role he played, he was truly contributing to his Corps and to his fellow man. And it is largely the tale of an officer who was an integral part of it and who thoroughly enjoyed every moment. For this we all owe Col Thomason a great deal — our only regret is that this book had to come to an end.

Reviewed by Col Roger Willock

Ed: A Reserve officer, the reviewer served under Col Thomason and is the author of the article "Col John W. Thomason, Jr., Chronicler of the Corps." (Gazette: May '57).

VICTORY WITHOUT WAR, 1958-61

GEORGE FIELDING ELIOT. US Naval Institute, Annapolis, Md. $2.00

The USSR literally jumped over the era of the long range piloted bomber, pouring all its efforts into the development of the intercontinental ballistic missile. As a result it is on the verge of decisive military superiority over the nations of the west.

This enemy missile threat is directed at fixed objects—our airfields, the bases of our deterrent power.

The answer to this threat does not lie in imitation of the USSR—the development of a fixed-base missile system. In following such a course we must always be running to catch up with the Soviet lead. Moreover, even the attainment of a fixed-base missile system equal to that of the Soviet Union would give us no advantage. It would give us no freedom to pursue our positive national purposes as distinguished from the mere negative need for denying the enemy his hopes of conquest.

Instead of running vainly to catch up with the Soviet Union in the weapon system to which it is so deeply committed we ought rather to take a page from the Soviet book and jump over that weapon system.

Then the Soviets must run to catch up with us. If this is done promptly then the moment of decisive superiority toward which the Soviets have labored so hard will never come. Indeed, the time advantage in weapons development which the Soviets have gained by imaginative thinking and by a decade of hard work will have been snatched from them, transferred to us.

The answer is the development of deterrent power with moving bases, immune to surprise annihilation and virtually immune to attack by any means now available to the Soviets. That is sea-based nuclear striking power.

The Soviets then would have no recourse but to construct new weapon systems capable of attacking such bases successfully. They cannot do this quickly or easily. Indeed, they may not be able to do it at all, for to operate, or to deny the operation of, a sea-based weapon system requires control of the seas, and the Soviets do not think in the positive terms of "control of the seas" but rather the negative "denial of the seas." And history shows that a policy of denial of the sea always ends in failure although the idea continues to attract the generals and statesmen of countries habituated to land warfare, such as Germany and Russia.

George Fielding Eliot, who needs no introduction, shows how the Soviet decision to concentrate on the ballistic missile during the decade the United States was building generation after generation of piloted bombers can place us by 1961 in a position of hopeless inferiority. That is why Khrushchev can exalt "We will bury you," and "The piloted bomber is obsolete. You can throw it on the fire."

But this need not be so, says Eliot. We are not so fully committed to a single weapon system that we have lost flexibility. We can still choose our weapons to suit our purposes, and our purposes in the years 1958 to 1961 can be served best by sea-based weapons. Sea-based weapon systems, by reason of their mobility and concealment: a) Can deliver fire power in such quantity as to constitute a prohibitive risk to the life of the Soviet state system and with maximum surprise effect. b) Cannot be attacked successfully by ballistic missiles and cannot be neutralized or destroyed by any other means available to the Soviets. c) Do not attract Soviet nuclear fire to populated areas as would deterrent power sited on fixed bases located in our own bosom or in the territory of our allies.

Eliot musters the facts carefully and argues his thesis effectively, as he must do if he is to be heard at all. Some years ago a newly appointed Secretary of the Navy, boarding a ship for the first time, expressed surprise to find that it was "hollow" rather than solid as he had thought. This lack of knowledge was not individual and isolated but broadly representative. In spite of our geography and our early history there are few among us on this new continent who have any understanding of control of the sea and its uses. That this crippling infirmity extends to those who shape our policies and mould public opinion is all too manifest in such studies as the Rockefeller Fund's *Report on Defense*

Organization or Kissinger's *Nuclear Weapons and Foreign Policy* sponsored by the Council on Foreign Relations. It is doubtful if the old German General Staff could have produced studies less perceptive of the needs and purposes of control of the seas than these groups of high placed and representative Americans.

It is to be hoped that *Victory Without War* may help to open our eyes to our own blindness, for as Eliot says, the time for the decision which can save us from military inferiority is now.

Reviewed by Col J. C. Murray

Ed: In his 22 years of commissioned Marine Corps service this reviewer has had a wide variety of staff and command billets.

A. P. HILL: LEE'S FORGOTTEN GENERAL

WILLIAM WOODS HASSLER. 242 pages, illustrated; Garrett & Massie, Inc., Richmond, Va. $3.95

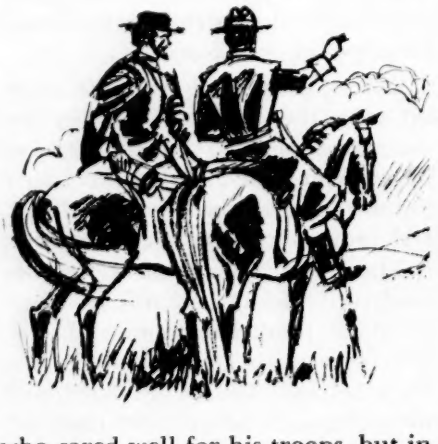
In the great volume of biographies that has been produced since the Civil War one of Lee's Lieutenants has been sadly neglected. Ambrose Powell Hill, the gallant commander of Lee's Third Corps has all but gone unnoticed. Except for a short biography which appeared serially in the magazine section of the *Richmond* (Va.) *Times Dispatch* (Oct.-Nov. 1934) A. P. Hill has been without a biographer.

Dr. Hassler remedies this situation. In this slim volume, he traces A. P. Hill's life from childhood through West Point (where, incidentally, he roomed with George McClellan), the Mexican War and the Civil War. As is to be expected, the greater portion of this book is devoted to the Civil War and A. P. Hill's rise from a Colonel of the Thirteenth Virginia Infantry Regiment through Major General in command of the famed Light Division to Lieutenant General in charge of the Third Corps and his death 7 days before Appomattox.

In Dr. Hassler, A. P. Hill has found an impartial biographer who presents the man, with his virtues and faults, neither extolling the former nor depreciating the latter. Unfortunately, because of this impartiality Dr. Hassler fails to breathe the breath of life into his main character. One feels completely detached from Hill, the men he commanded and the problems he faced. However, because of the author's clinical approach, the reader will find some basic tactical lessons quite clearly, and sometimes, quite sadly spelled out in detail.

The author portrays A. P. Hill as a division commander who could be brilliant, but was frequently erratic. Hill was a fighter in the same mold as Hood. He was a man of unquestioned bravery, always willing to fight, perhaps a little too much so. In his eagerness to enter the fray, Hill often evinced serious tactical shortcomings. His lack of thorough reconnaissance at the second battle of Manassas and Fredericksburg spelled near disaster. Again at Bristoe Station this defect, or as Jefferson Davis phrased it, this "want of vigilance," and Hill's impetuosity resulted in a heedless loss of Southern lives with no appreciable results.

Away from the fight, A. P. Hill is pictured as an able administrator



who cared well for his troops, but in dealing with his superiors, especially Longstreet and Jackson, he evidenced a fastidious sense of personal honor which benefited neither himself nor the army.

As a corps commander, he was, of course, compared to the irreplaceable Jackson. He did not measure up. Even by lesser standards he was not the best of Corps commanders. Like Hood, and many of the Confederate leaders who were excellent Colonels and superior Brigadiers but failed in higher ranks, A. P. Hill simply did not grow with his rank.

To cover thoroughly the 4 years of the war in Northern Virginia in 242 pages is manifestly impossible. The author does not attempt it. He slides over the interim periods between the battles. The battles themselves are rather sparsely described, concentration being on the unit that Hill commanded. Because of this and the rather serious lack of good diagrams for the various battles the reader must bring to the book a background of the battles of the Army of Northern Virginia and the units involved.

Despite this rather Spartan treatment, the serious devotee of the Civil War will appreciate the book. It bridges a gap in Southern leadership that has too long been neglected.

Reviewed by Capt John A. Gose

Ed: A Reserve officer, the reviewer has made a hobby of books on partisan and irregular warfare during the Civil War period.

SYRIA AND LEBANON

N. A. ZIADEH. 298 pages, maps and charts. Frederick A. Prageer, Inc., NY. $6.50

The land which now includes the republics of Syria and Lebanon has always been considered as a geographical entity: Syria. Geographical Syria is a geological newcomer dating from the early Cainozoic period; these two republics of geographical Syria are political newcomers dating from the late colonial period.

In between these two periods lies the history normally associated with the area; of Biblical times, of Arab Caliphates, of the Ottoman Empire. Such history is rather the point of departure for *Syria and Lebanon,* a book that deals for the most part with very recent history — events that date from the first World War and which cover the entire lifetimes of the two nation-states. What we read in the news of today is part and parcel of the final loss of Alexandretta to Turkey in 1939, the British occupation of Syria and Lebanon in 1941, the clash between the British-Free French forces and the Vichy French forces in Syria in 1941, the fighting between the French and Syrians and the shelling of Damascus in 1945. These events are fresh in the minds of the Syrians and Lebanese. But perhaps for many of us, these events came too late to be studied as "history" and too soon to avoid being overshadowed by larger events of WW II and aftermath. So it seems to me that *Syria and Lebanon* offers discussions of two main areas of special interest. They are

the mandate period and the period of early independence.

Mr. Ziadeh deals with the French mandates and each country's separate but generally parallel bids for independence in a factual and concise fashion, interpreting events and providing appropriate direct quotations from contemporary documents. The separate and alternating method of presentation is continued through a chapter on the early independence and a chapter "Eventful Years." This latter chapter provides the immediate background to the situation at the time of Egypt's nationalization of the Suez Canal. The Suez nationalization forms a natural culmination of area events, including the Baghdad Pact and the oil transit controversies, which shaped the internal events and external policies of Lebanon and Syria set forth in this book. The author provides a stop-press appendix giving a brief background to, and the chronology of the British-French-Israeli action in Egypt. Here, and elsewhere, the author helpfully relates his primary subjects, Syria and Lebanon, to events throughout the Middle East. Mr. Ziadeh gives the full import of the Arab-Israeli problem but he is not preoccupied with it.

In support of the discussions of the mandate, early independence and the recent periods, are readable chapters studying the land and people, the heritage of history, economic life and human society, government structure, political parties and lastly, present problems and future prospects. These chapters provide much fact and not overly many figures.

Mr. Ziadeh, a Syrian, has been a member of the faculty of the influential American University of Beirut and a visiting lecturer at Harvard. He was educated at the Arab College, Jerusalem, and received his doctorate in Medieval Islamic History at the University of London.

Reviewed by LtCol E. G. Atkin, Jr.

Ed: The reviewer has recently returned from two years in the Middle East where he was Naval Attache and Naval Attache for Air in Baghdad, Iraq. This review was prepared prior to the union of Syria and Egypt into the United Arab Republic. Despite this, however, we feel that it is particularly pertinent in view of current events.

AMERICAN KNIVES

The First History and Collectors Guide

HAROLD L. PETERSON. 154 pages, illustrated and indexed. Charles Scribner's Sons, NY. $4.95

This first book on collecting knives, has been done with the thought in mind that the neophyte collector needs a basic guide as a source of information. It represents some 25 years of interest and collecting by the author.

The book consists of 8 chapters: Knife Names; Knives of the Explorers and Colonists; The Bowie and it's Associates; Army Knives; Naval Dirks and Other Knives; The Indian and his Knife; Pocket Knives; and The Manufacture and Sharpening of Knives. This reviewer found the book most interesting, the language was not technical, it was written in a clear concise style that can hold any readers attention.

As to be expected in an American book on knives, the longest chapter is devoted to the Bowie knife, to quote the author, "In the history of American arms three weapons stand out above all the rest: the Kentucky rifle, the Colt revolver and the Bowie knife. Each was a superb weapon, but more than that, each became so much a part of the American scene that it transcended its role in history and became a part of the American Legend."

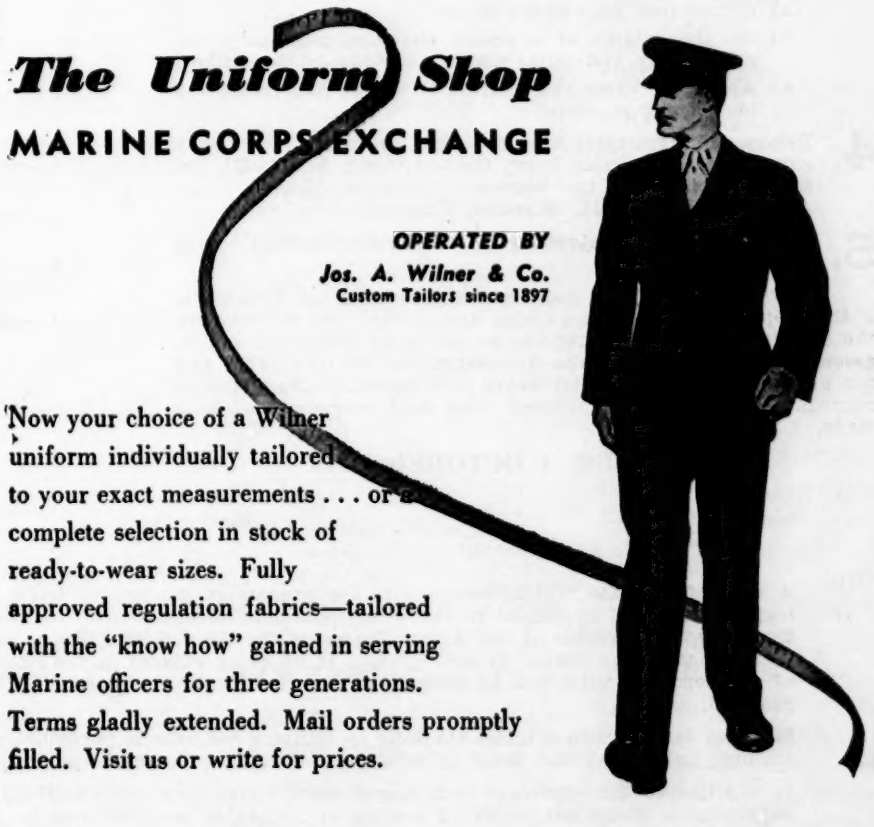
Mr. Peterson does not attempt to answer the question, "What is a true bowie?" He does however establish how he will use the term in his book. If for no other reason but that alone, he qualifies as an author of understanding.

The illustrations in the book are above average and extensive research must have been done by the author. He even managed to get a picture of the Marine Corps' "Ka-Bar" along with a history of the Marine Corps' fighting knives.

Since 1952 Mr. Peterson has been curator of Edged Weapons at the West Point Museum and since 1953 a consultant at the Henry Ford Museum. He has published 4 books in the field of arms, his best known being, *Arms and Armor in Colonial America*. He has written for the *Encyclopaedia Britannica* as well as dozens of articles for magazines.

Reviewed by MSgt B. M. Rosoff

Ed: This reviewer is presently assigned to MCS, Quantico, Va.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General Rules

1. Contestants may write on any subject of military interest but essays may not exceed 5,000 words and they must be original.
2. They must be typewritten, double-spaced, on paper approximately 8 x 11, and must be submitted in triplicate.
3. The name of the author shall not appear on the essay. Each essay heading shall contain an identifying phrase consisting of the last 5 words of the essay. This phrase shall appear:
   a) On the title page of the essay.
   b) On the outside of a sealed envelope containing the name (rank and serial number, if any) of the author.
   c) Above the name and address of the author, inside the identifying envelope.
4. Essays and identifying envelope must be mailed in a sealed envelope marked Prize Essay Contest Group (I, II, III, IV as appropriate) to the Secretary-Treasurer, Marine Corps Association, Box 1844, Quantico, Virginia.
5. Essays must be received by the Secretary-Treasurer prior to 1 October 1958.

The copyright of any essay which appears in the GAZETTE is the property of the Marine Corps Association. No liability for the loss, return, judging or reports on any essay submitted will be assumed by the Marine Corps Association or the GAZETTE and the decisions of the Editorial Board will be final. No inquiries regarding essays will be answered until final judgment has been made.

DEADLINE 1 OCTOBER 1958

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Group II: Enlisted

Group IV: Members of the Platoon Leaders Class, Marine Corps Option NROTC, Officer Candidates Class and NAVCADs.

(Prospective officers may enter Group IV if they have not received their commission at the time the essay is submitted.)

A total of $2,000.00 will be awarded to the winners of the Marine Corps Association's 1958 Prize Essay Contest. Essays will be judged in the 4 classifications, determined by the status of the contestant (active, inactive or retired member of the Armed Forces of the US and its Allies or as a civilian). A prize of $500.00 will be awarded to the winner in each group. If no essay entered in the contest is of a sufficiently high standard of excellence, no prize will be awarded in the classification concerned. In the event of a tie, awards may be prorated.

Material dealing with original thinking on military subjects is particularly desired. Historical essays are not solicited unless they can point up some development or far-reaching thought that affects us directly today.

In addition to the prizes awarded, one or more essays may receive "Honorable Mention" and be accepted for publication. Those not receiving a prize or honorable mention may be accepted for general publication in the GAZETTE. Compensation for such articles will be as adjudged by the Editorial Board.

The Marine Corps Association

The Marine Corps Association

The purposes for which the Association is formed are to disseminate knowledge of the military art and science among the members, and to provide for their professional advancement; to foster the spirit and preserve the traditions of the United States Marine Corps; to increase the efficiency thereof; and to further the interests of the military and naval services in all ways not inconsistent with the good of the general Government.

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HqBtry, 11th Marines
Capt C. J. Stanaro

1st Bn, 11th Marines
Maj E. F. Veuleman

2dBn, 11th Marines
Maj C. A. Arneson

3dBn, 11th Marines
Maj J. B. Stribling

4thBn, 11th Marines
Maj W. M. Sigler

12th Marines
Capt P. C. Osterhoudt

3d Engr Bn
1stLt W. D. Jackson

1st Am Trac Bn
1stLt H. T. Dunn

1st Anglico
1stLt R. Raymond

1stBn, 4th Marines
1stLt R. Shigley

MAG 13, 1st MarBrig
Capt N. E. McKonly

1st Recon Bn
Maj L. C. Shepherd, III

3d MT Bn
Capt C. F. Cresswell

3d SP Bn
Capt J. J. Diehl

7th Eng Bn
Maj C. Wall

3d Svc Regt
1stLt B. J. Cassin

3d Tk Bn
Capt W. C. Sherman

4th Stf Gr (Ground)
Maj J. A. Booth

HMR 161, 1st Mar Brig
Capt J. C. Robinson

3d EngBn, 3d MarDiv
2ndLt H. M. Ewoldsen

3d 4.5 Rkt Btry,
11th Marines
Capt C. A. Merrill

HqBn, 3d Mar Div
Maj W. W. Brown

3d Med Bn
Capt R. B. Brennan

3dBn, 12th Marines
1stLt E. J. Clarkson

Svc Bn, 1st Mar Brig
1stLt J. W. Medis

ROK Marine Corps
Col E. H. Forney

2dBn, 4th Marines
1stLt J. Labonte

3dBn, 4th Marines
1stLt R. Henry

27th Inf Co
1stLt M. L. Woodward

6th 75mm AAA Btry
Capt D. W. Wilson

2d Supply Co
Capt N. O. Snepp
Capt W. R. Reiss

75th Inf Co
Capt W. D. Schaller

62d Inf Co
1stLt H. E. Sheeley

1st Auto Field Maint Co
1stLt J. F. Pope

16th Rifle Co
Capt C. P. Peters

12th Inf Bn
Maj W. Haynes

2d AW Btry
Capt F. H. O'Reilly

68th Inf Co
Capt B. H. Murray

63d Inf Co
Capt V. McGlone

4th Truck Co
Capt R. J. McClymonds

6th Truck Co
Capt T. M. Kauffman

8th Inf Bn
Maj W. R. McCann

3d Eng Co
Capt H. M. Markus

1st 155mm How Bn
Capt J. J. Lister

3dAT Bn, 4th Marines
1stLt B. Webb

HqCo, 4th Marines
1stLt D. Wight

5th Inf Co
Maj B. T. Leonard

5th 105mm How Btry
Capt W. H. Lawson

3d 155mm How Bn
Maj W. G. Speed

77th Inf Co
1stLt J. E. Kosanke

71st Inf Co
Capt H. E. Hoskins

8th Inf Bn
1stLt R. J. Hookey

4th AW Btry
Capt F. A. Gore, Jr.

74th Inf Co
Capt M. E. Garber

4th Com Co
Capt D. A. Gerber

69th Inf Co
1stLt A. T. Gamon

78th Inf Co
Capt E. W. Elder

1st Ord Field Maint Co
CWO R. W. Draucker

76th Inf Co
Capt J. R. Dopler

1st 75mm AAA Bn
Capt C. B. Campbell

39th Inf Co
Capt T. C. Budd, II

34th Inf Co
CWO W. C. Seitz

1st Auto Wpns Btry
Capt K. R. Seitz

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—and a Few Marines

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